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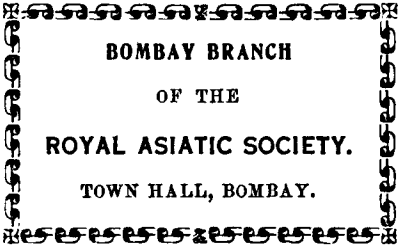

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Egypt of the Egyptians

By

W. Lawrence Balls

LATE FELLOW OF ST. JOHN'S COLLEGE, CAMBRIDGE
AUTHOR OF "THE COTTON PLANT IN EGYPT,"
"THE DEVELOPMENT AND PROPERTIES OF
RAW COTTON," ETC.

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TO SOME FRIENDS IN EGYPT

THOSE of the outer world, who may chance to read this account of the land which we served together, will be sufficiently assured of my right to accept the Publishers' request in attempting it, by the bare fact of my nine-year residence in Egypt. A mild surprise may be felt by exceptionally well-informed persons at the appearance of a specialist in such a guise, and they will recognise his cloven hoof with some amusement.

To you, members of many nations, speaking not less than four languages, more justification is needed. My first excuse is that you yourselves are not permitted to write on "Egypt of the Egyptians." My second excuse is that we know an Egypt which is not the Egypt of the tourist and the temples, but a land of dust and crops, of mud and flies, where everything goes wrong but comes out right; our knowledge is not to be found in the books. But it has given us a point of view; we have learned humility of a sort, and we have seen that Egypt is naked earth, water, sun, and air, producing plants by the interminable labour of a population which knows its immediate business quite well, though it does not trouble about the future.

The future is our concern; through the entangling web of administration and intrigue, argument and technical detail, success and blundering, we can see a more efficient Egypt steadily growing.

W. LAWRENCE BALLS.

Little Shelford,
Cambridge,
June 10, 1915.

INTRODUCTION

"Our bulkheads bulged with cotton and our masts were stepped in gold."—*The Galley-slaves.*

THE queerest paradox in administration ended in December, 1914, when the British Empire simplified its duties by undertaking the protection of Egypt in due form, appointing H. H. Prince Hussein Pasha Kamel to be Sultan. This paradox had lasted some thirty odd years; fortunately, it did not end before it had been epitomised by Kipling—

"A country which is not a country, but a longish strip of market garden, nominally in charge of a government which is not a government, but the disconnected Satrapy of an Oriental Empire; controlled Pecksniffingly by a power which is not a Power but an Agency, which Agency has been tied up by years, custom, and blackmail in all sorts of intimate relations with six or seven European powers, all with rights and perquisites, none of whose subjects seems directly amenable to any Power which at first, second, or third hand is supposed to be responsible. . . Among these conflicting interests and amusements sits and perspires the English official, whose job is irrigating or draining or reclaiming land on behalf of a trifle of 10,000,000 people, and he finds himself tripped up by skeins of intrigue and bafflement which may ramify through half-a-dozen harems and four consulates. All this makes for suavity, toleration, and the blessed habit of not being surprised at anything."

Some of these delights have now departed, though many will remain, for Protected States elsewhere have taught us that even this particular form of regularised administrative machinery has its own eccentricities, not to mention those which are essential parts of Egypt. Much has been gained, however, if only potentially, and there are dreamers who hope for great things from The Oldest Country in the World,

since she rests on sure foundations—the soil, and the workers of soil.

But anyone attempting to realise those hopes must remember Egypt's age, and treat her with respect. It is easy to find slighting references to the degeneracy of modern Egypt, in comparison with the great days of Pyramid-builders, and they are not without justification, but—and especially in these days when we are re-arranging the map of Europe on ethnological lines—it will do no harm to remember that the modern Egyptian, be he Copt or Moslem, is the literal and lineal descendant of the men who built and peopled "Hundred-gated Thebes," who turned the desert into a trap to catch and store the dangerous generosity of the Nile in flood, and opened a waterway from the Mediterranean to the Red Sea when in England we were wearing woad. We may question whether Egypt's degeneracy is so very real, or whether it may not be that we have changed while she has not.

The Egyptian.

This conception of Egypt, as being in a state of arrested development, applies also to the Egyptian in certain respects. Without taking the phrase too literally, it explains many of the troublesome inconsistencies of the average Egyptian. His mental attitude is largely that of a child, though his toys are the toys of the grown-ups; money, women, land, and—in very bad cases—politics. Like the child, his powers of observation are keener than his power of drawing deductions from observed facts; like the child, he lives on the edges of fairyland, where "ginni" or "afrites" are likely at any moment after dark to make their awesome presence felt; like the child, most of his abilities and faculties are blunted and atrophied when he is brought under the influences of a conventional Western educational system, and the highly-exercised memory of an illiterate race finds it easiest to absorb page after page of lecture notes, which can be unrolled later to the examiner with as much intelligence as a pianola would display.

The whole problem of Egypt is one of education, though not in the ordinary sense. Let it be clearly understood from the commencement that the average modern Egyptian can do certain things, within a limited range of activities, better than anyone else ; he will, for example, take a field of uneven land, and arrange it in a series of plots differing in level by steps of an inch or two from one another, and without more than an inch of variation in level within any one plot, so that all can be irrigated easily from the highest corner of the field thus made ; and this he will do with only his eye to guide his actions. In so far he retains some of his superiority of his ancestors over the rest of their world, in peaceful arts ; here is material to work upon. Let it be even more clearly understood that there are many things which the average Egyptian is utterly incapable of doing, or in which he is quite markedly inferior to his wilder neighbours in the Sudan ; here we may bury the remains of many misplaced efforts of philanthropy, and make a fresh start by restricting such efforts to the few exceptional individuals who are capable of drawing advantage from these efforts, whatever may be the present social status of such individuals.

The real Egyptian of Egypt is not to be found in the veneered towns, but away in the country villages, themselves part of the countryside. It is by these Fellaheen labourers and small-holders that Egypt exists ; but in spite of the wealth of genuine literature dealing with Egypt which already exists, the Fellah has been given but little attention. He is taken for granted, as a background ; or as a foundation, without which no superstructure could be raised, but in himself no more conspicuous than foundations usually are in any building ; or, to use an even closer simile, the fellaheen are the roots of Egyptian society, and as difficult to study as any other root-system.

To write on Egypt at such a time as the present, when chance has suddenly swept away many of the absurdities with which the administration of modern Egypt has previously

been cumbered, necessitates a careful choice of treatment. Egypt will never be the same again, and yet she will always be the same as through the sixty centuries of her past history. A detailed account of her political institutions during recent years would have nothing more than historical value, and they have moreover been fully described—at least up till 1911—by writers with the highest qualifications for the task. Detailed speculations as to the course which the political institutions may take in the future would be still less useful, since they will be bound up with the unforeseen history of the world. On the other hand, Egypt will always be Egypt, the land of the Nile, and the senior partner of the enormous Sudan upstream ; her assets are the water of the river, the labour of the most industrious labouring class in the world, and a cultivable area of limited extent, with a regular climate and an excess of sunshine.

Summary of Chapters.

The author has therefore endeavoured to avoid the topics of religion, politics, and intrigue, though all three are most obvious features of Egypt, and to penetrate through this crust to the foundations of Egypt, which have persisted without change—because they are unchangeable—throughout her long history.

The chapters dealing with the History of the country are not altogether an attempt to achieve the impossible. Six thousand years cannot be discussed adequately in a few pages, and the aim of these three chapters is merely to show how this history has progressed—or, if you will, has merely pulsed—in long swinging waves, a dozen or more in number ; each period having its rapid rise, followed ultimately by a slow fall. The interest of this history at the present day lies in the cynical hint it gives us that all our work in Egypt may come to nothing and die out, to be done all over again, unless modern civilisation is really worth something more than its predecessors. Also it shows us how the simple life of the country has persisted unchanged, under all the glitter of Pharaohs,

Caesars, Caliphs, and Sultans; this sets one wondering whether, even if such a life be unchangeable in its essentials, it may not be capable of development within the limits imposed by those essentials.

The next chapter, dealing with the country at large, has been strung on the silver thread of the Nile itself, and has been extended somewhat beyond the usual limits by treating of the Sudan and Egypt as parts of a common whole.

The utilisation of the Nile water by irrigation is shown by historical records to be the primary cause of all prosperity or poverty in the country, and since this process of utilisation has now been carried further than ever before in the country's history, there is a correlated probability that the prosperity of the country will also be carried further. An additional reason for the attempt to present an account of the irrigation system and the duties of its administrators is the fact that no such general presentment from the agricultural point of view has yet been written. This chapter, and those on the history also, may thus possibly serve some purpose of convenience even to persons familiar with Egypt.

The reader who is unfamiliar with Egypt might imagine after reading the previous chapters that in this artificial country everything was regulated according to order, and that Nature was in entire subjection to man. To provide an antidote to any such misconception, a few examples to the contrary have been adduced.

The agricultural basis on which the civilisation of Egypt has always been built, and always must be built, is not quite so simple now as it used to be, but it is still true that the continued existence of masses of people in the lower Nile valley is due to a minute bacterium. Agriculture in Egypt is reduced to its simplest terms, and yet it is not by any means simple in itself, so that it seems scarcely fair to dismiss it with the mere statement that many valuable crops are cultivated, and a chapter named after the three essential crops has therefore been added.

The human interest of Egypt at the present day is divided primarily between a great mass of agricultural labourers, blindly doing a fair day's work in the hope of a fair day's wage, and a handful of people, mostly foreigners, and mostly less fortunate than the fellah in essentials, who are endeavouring both to understand and to direct that work for the good of the country at large. The two chapters entitled "The Fellaheen" and "The Foreigner" complete the present volume.

In this way it is to be hoped that the reader will gather sufficient understanding of the country, as it was, and is, and may be, to make further study and appreciation easier. Several standard works of reference are given in a list before the index, and sketch-maps. The country is one well worthy of study. Historically, from her age and past Imperial state; politically, from her situation between Europe and Asia and on the line of the Suez Canal; and economically, from the fertility of her soil—not to mention her supreme modern importance as the intellectual centre of Islam—our new Protectorate is one of which no British subject can afford to be ignorant.

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The illustrations, with the exception of the frontispiece, are from photographs by the Author.

Egypt of the Egyptians

PART I
SIXTY CENTURIES

"Et les siècles s'égouttèrent comme l'eau à la pointe des stalactites."—*Anatole France.*

CHAPTER I

THE RISE OF EGYPT

"As Adam was a-working outside of Eden Wall,
He used the Earth, he used the Seas, he used the Air and all;
And out of Black disaster
He arose to be the master
Of Earth and Water, Air and Fire."
KIPLING—*The Four Angels.*

EGYPT is the oldest country in the world; so old that we, brought up on the History of England, can scarcely realise her age. The dawn of history in these islands took place at a time when in Egypt it was forgotten that she once had been Empress of the known world. Mere comparison of dates scarcely helps us, but an example may be of use.

Ancient England.

The little Cambridgeshire village in which this book is written has a respectable old age of its own. The buttressed wall of the manor grounds was built in the reign of Charles I. In the church there is the monument of a Crusader who died in 1307, when England was still sufficiently Norman for the inscription on his tomb to be written in Old French—*Ici gist Sire Iohan de Frivile. Ke Fust Seignour de ceste vile.* The bridge at the ford over the Granta near by was maintained by the sale of Indulgences, even before Sir John's day, and

before that again it was one of the few practicable passages from Mercia to the land of the Iceni in East Anglia. Roman camps are to be found in the neighbourhood, and the bones of Roman soldiers in shallow graves in the chalk. Earlier than this there is no historical trace.

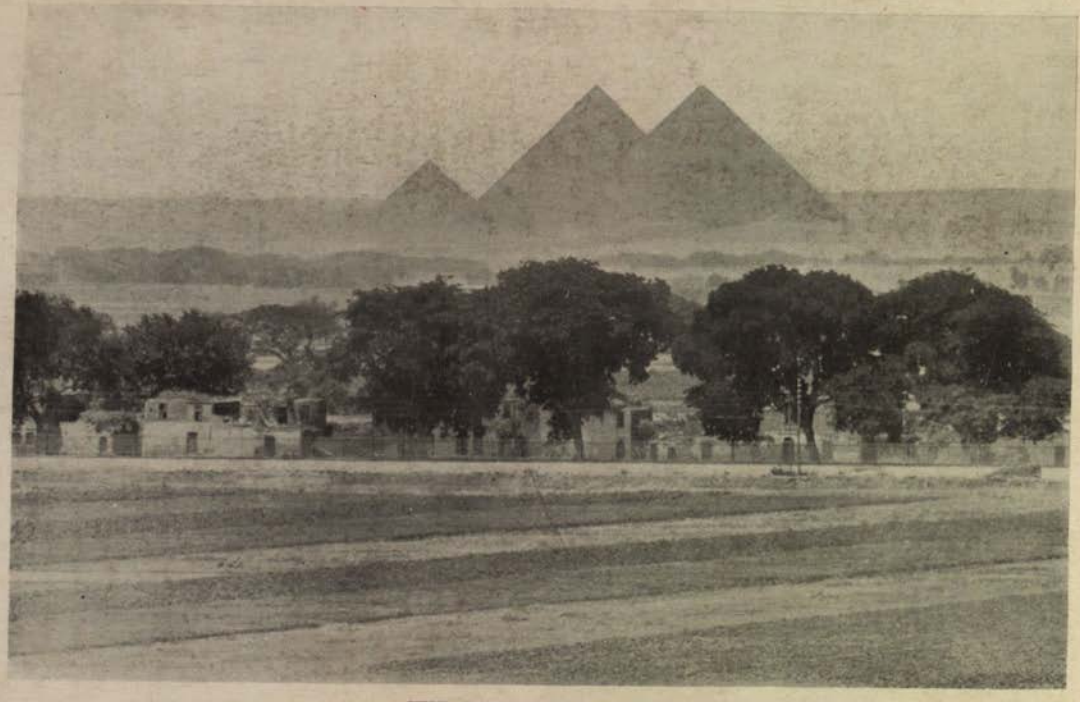
Yet the names of Caesar and Cleopatra belong to the decadence of Egypt.

To carry our imagination back through two thousand years in England is a long stretch. In Egypt we must go back that much, and then twice as far again. On the most conservative estimate the actual History of Egypt begins 3400 B.C., and one date can be fixed definitely before this at 4241 B.C. When the Romans swept the county of Cambridge after Boadicea's rebellion they destroyed a British village near by, consisting of wigwams made by wattle and reed over circular excavations with a surrounding mound and ditch. When the Romans came to Egypt the Pyramids of Giza had been standing for nearly thirty centuries, and Caesar borrowed the Egyptian calendar—spoiling it in the process—which was thirteen centuries older than the Pyramids.

Ancient Egypt.

Almost the only remainder of human activity in England which will bear comparison with Egypt for antiquity, is the trade of the flint-knappers of Brandon. They and their craft are lineally descended from the Stone Age, though the Stone Age was not a definite period of the world's history; each country went through its own Stone Age. The Stone Age of Egypt was before the days of Menes, her first historical king, and even then we find the flint knives fitted with a haft, or grip, of sheet gold, hammered into delicate repoussé designs.

Again, in England we account our history a complex one, with invasions of Norse and Angles, Jutes and Saxons, Romans and Normans. Ere ever the Romans came to Egypt she had been conquered by the Hyksos and freed again; had become a world-empire contending with the Hittites, had held her empire against Babylon, passed into decadence and under



THE PYRAMIDS OF GIZA

Seen across the valley from Cairo

invasion by Libyans, Nubians, Assyrians, Persians, and Greeks. Having been Pagan, she had yet to become Christian and Moslem. An outline of the chief features of this history is the most we can attempt.

Pre-dynastic Times.—The archaeology of Egypt merges into geology. Scattered over the rainless barren deserts on either side of the Nile valley are found flint implements, indicating that this desert land once received sufficient rainfall to support a population. In these flint implements we find the Prehistoric Egyptian connecting history with the climatic changes of the Ice Age.

Little or nothing is known of these people, and our archaeological information begins at a later stage, when the desiccation of North Africa had progressed further, driving its human population to water, and concentrating a part of them in the valley of the Nile. The Nile in this transition stage was very unlike the modern river, its banks being unsubdued jungle, while the modern delta was partly a deep bay. In this narrow valley, rarely much more than twenty miles in width, steaming with sub-tropical vegetation and swept annually by a flood which was possibly even faster and larger than in these days, confronted on either side by the sheer and mountainous cliffs of the valley wall, there developed a chain of independent petty States. Each state was necessarily bounded by its neighbours to the north and south, while in front of it was the river, and behind it the desert. Although no historical remains of these states exist, there is plenty of archaeological evidence of Pre-dynastic Egypt. The antiquity of these conditions is uncertain; old as the Pyramids are, they were built in the Fourth Dynasty under the kings of United Egypt, and before this union was effected the petty states had been bound together into homogeneous kingdoms of Upper and Lower Egypt separately, which can hardly have been effected before 4000 B.C., while many authorities assign a much earlier date.

In a Narrow Land.

These Pre-dynastic Egyptians had already mastered the art of making textile fabrics by spinning and weaving, using them for clothes alternatively with skins, the men in kilts, the women in long robes. Their pottery was made by moulding, the potter's wheel not having been invented; some Sudanese tribes at the present day still work without the wheel. In spite of this handicap the potter's skill was remarkable, and in the case of most of this old pottery it is hard to realise that the wheel was not employed. Gold, stone, ivory and bone were made into ornaments and utensils, and the toilet table was well equipped, indicating a peaceful and prosperous existence in which the women had both time and motive for adorning themselves!

Arts and Crafts.

Their ivory came from elephants in their own jungles, where also they hunted and depicted the giraffe, hippopotamus, and the rare okapi, which was discovered to be still existent in Central Africa at the end of last century. Boats on the river were a necessity for trade and locomotion, the jungle being probably almost impassable, and the arid desert much less pleasant for the traveller, as now. The art of using sails for their boats had been discovered, though it does not appear to have been used extensively. Each little state or tribe had its chief and market, its own god and some form of temple, and even an ensign.

The river was the cause of further developments, in a way which is curiously suggestive. Probably the use of sails increased, and locomotion thus became easier. This did not affect the width of the valley, in any case trivial, but it effectively shortened its absurd length. Just as in recent years we have watched the Atlantic becoming narrower with the development of fast liners, so the Nile became shorter, and the day ultimately arrived when it was possible for one tribal chief to gain the ascendency and unite the petty states of this shortened valley under the White Crown of Upper Egypt, while the seaward

Locomotion.

expansion of the valley similarly passed under the Red Crown of the north.

Although thus organised into two kingdoms, the essential homogeneity of the Nile valley from the first cataract to the sea was even then manifest in the worship of the sun (or the hawk-god Horus) in both kingdoms as the patron of both kings. Otherwise the serpent goddess was peculiar to Lower Egypt, figuring later as the " uraeus " emblem on the crown of United Egypt, and the vulture goddess to Upper Egypt ; the emblems of the two lands being a bee and a lily respectively.

Even at this remote stage the Egyptians made a permanent contribution to civilisation by recognising that the lunar month was not a satisfactory time-unit. They realised the superior claims of the day—or alternation of night with day—and of the year, since the latter defined such essential dates as seed-time and harvest. The lunar month was therefore discarded, and the year of 365 days was arbitrarily divided into twelve months of thirty days each, leaving five feast days over. By astronomical calculation, since the extra quarter of a day in each year was not then recognised, the date of the initiation of this calendar can be fixed at 4241 B.C.

Our Calendar.

One is prone to associate Ancient Egypt with " mummies," so we may note that mummification was relatively a modern practice. These pre-dynastic Egyptians buried their dead in pits in the sand on the desert margin, wrapped in skins or textiles, and accompanied by their weapons, pottery, models of boats, and so forth. In the rainless desert some of these have been preserved intact, and the body of such a man may be seen in London now, lying on its side with the knees drawn up in the characteristic " embryonic posture." There was a definite belief in a future life, which has come down to us through the ages.

Burials.

When compared to the history of the English village, with

which this chapter opened, it seems almost incredible that not only should these people have been far removed from savagery, but that they should even have developed the art of writing. Yet such must have been the case, for not only were hieroglyphic writings in use under the first king of the First Dynasty, but also a cursive hand. The hieroglyphs are syllabic, each sign representing a group of letters, and they developed initially from picture-writing by symbols; the running script, on the other hand, was not syllabic, but strictly alphabetical, each sign representing a consonantal or vowel sound. Such an analysis of the intricate sounds of speech as this implies can scarcely have been effected in a single reign, so that to these pre-dynastic Egyptians belongs the credit of the endless making of books.

Writing.

It is an interesting speculation, though nothing more, that the binding of all Egypt into a united kingdom by Menes, the first king of the First Dynasty, required this discovery for its accomplishment. Sailing boats had made the valley shorter, a reliable calendar had made the registering and ordering of actions accurate, and now the art of free writing made the administration of a large country possible, far beyond the degree to which personal supervision by the king was limited.

It is truly an astounding country. At this stage we have not even begun to deal with the History of Egypt, which starts with Menes, and yet already the people are masters of the wind and the sun, of sound and of thought; but from the very beginning right through to the present year of grace, one striking peculiarity has characterised the Egyptians; they have always had severely practical minds. Art for Art's sake may have appealed to them, but knowledge for Knowledge's sake never. They acquired astronomical lore for the establishment of a calendar, or for the exact aligning of a monstrous temple so that the rising sun might, on one day of the year, strike clear

Science.

through the mighty columns and light the dark recesses of the holy of holies for a few seconds. Mathematics and geometry were similarly developed as far as was necessary for practical application, and—exactly as at the present day—education was impressed upon the youth of the country because it was the only road to the service of the Government, nor was the rod spared in the process. The frame of mind which is dignified as the scientific spirit, or mocked as irrepressible curiosity, seems to be foreign to the Egyptian from a very early stage. It must have existed in the beginning, but the first products of its own activity, in the form of civilisation, seem to have cramped it beyond recovery, by holding out the dazzling prospect of utilitarian achievements, and the race of inquisitors became extinct in Egypt for sixty centuries.

Early Egypt.—The history of Egypt begins with the accession of Menes, the first king of the First Dynasty, and with him we obtain a hint of the control which the Egyptians were beginning to exert on the Nile itself; Menes is said by tradition to have diverted the Nile channel in order to improve the site which he founded for his city of Memphis, a few miles above the modern Cairo. In many ways these early dynasties were especially remarkable, and most of all in artistic matters. Before long the iron grip of convention was to hold Egyptian art firmly to immovable tradition, but for a while it was free, and statuary was then produced which has scarcely been equalled. Moreover, such productions were not exclusively devoted to celebrating royalty. One of the finest is that of a mere scribe, pen in hand, and papyrus-roll on his knees, as he sits squatting in the Louvre, waiting to resume his dictation from the employer who died five thousand years ago.

The technical skill displayed, in addition to the artistic ability, was amazing. Bowls of hard diorite and alabaster were worked down to translucent thinness; rock-crystal, ebony inlaid with ivory, copper and gold, were all employed for ornaments and furniture. The houses and temples of Menes' time were of wood and wattle, with enclosures and

gardens, but the whole art of building developed most rapidly. This can be most easily realised by the evolution of the Pyramids from the pre-dynastic burial pits.

The simple burial pit was first floored with granite, then built solidly with bricks, and later, in the Third Dynasty, with limestone. The sarcophagus containing the body was lowered down a shaft left vertically in the structure, which was sealed with great slabs, while chapel-like chambers were made elsewhere in the solid masonry. These wide flat rectangular tombs were next enlarged by the addition of superincumbent layers of stone, so that a kind of pyramid of several steps was produced. From this, by elimination of the steps, there developed the true pyramid, of which the greatest is that of Cheops at Giza. Mere figures convey little of the significance of this, the sole survivor of the classic wonders of the world. It is 480 ft. high, and the base is over 750 ft. long. The average error of its sides from their strict geometrical form is less than one ten-thousandth part of the side in equality, squareness, and level. The statement of Herodotus is probably correct, that it required the labours of a city of 100,000 men during twenty years. All the stone came from the opposite side of the Nile valley 10 miles away, from the quarries in the cliffs facing those on which the pyramid stands, and in spite of the colossal scale of the work we find that in many places the blocks of stone, weighing several tons, are so finely finished that the finest needle cannot find a way between the stones for foot after foot of jointing. Covered on the outside with a smooth limestone casing, it was not only the largest, but also the simplest mass of masonry ever put together by human hands. Yet it failed to protect the body of the king, entombed in its polished granite chamber in the heart of the mountainous mass; robbers ultimately found the sealed entrance and rifled the sarcophagus. The whole of this revolution, from the simple pit in the sand to the Great Pyramid, was effected in five centuries.

The Pyramids.

Priestcraft.

Although the Pyramid period was not of long duration, the preparation of tombs for the dead kings henceforward absorbed a large part of the energies of the ruler and of his state. Mortuary usages, temple endowments, and the like, formed, so to speak, an excrescence on Egypt, in no way related to the life of the common people, and unprofitable from the economic point of view. Even its educational and artistic value may be doubted, for such abilities as are revealed to us must have certainly found some other outlet. On the other hand we moderns owe an enormous debt to this development of the State's activities, since the grand scale on which these works were carried out, aided by the climate, has ensured their preservation where less ambitious enterprises would probably have perished. Till the present day they have persisted as the most striking feature of Egypt. Greek tourists scrabbled their names on Egyptian monuments, over 2,000 years ago, just as their fellow-criminals would do to-day if the Egyptian Antiquities Service did not prohibit it.

The history of these tombs and temples is bound up with that of Egypt, which, indeed, they tell, but this chapter must leave them untouched, except for a few matters which are relevant to the main development of the country.

It is of more importance for us to know that irrigation canals are older than the pyramids, that they were administered by the state, and that the king is depicted as personally inaugurating work upon them. Also older than the pyramids is the bureaucratic system of government. The kings of the early dynasties had their chancellor, their officials of finance and of justice, departments for various functions, and a due equipment of clerical staff. Possibly the most striking information we possess about these early days is that which relates to the primitive theology, before the elaborate hierarchy of later days had developed; it probably represents the religion of the common people up to a much later date, underlying the formal religion of the State, and even at

the present day, in spite of Islam, traces of its naturalistic philosophy can be recognised.

The whole life of the people centred on the river, which came to them from one end of the world, and went out at the other end. To their west the Libyan desert was almost impenetrable, though the eastern desert was less inhospitable, and at a later stage was exploited for its minerals, besides having to be traversed by trade-routes to the Red Sea. The valley-scenery was not grand, but it was impressive, even terrifying. The Nile tearing seawards in flood, the sand-storm or the summer drought, all served to keep man in due subjection to Nature. The Sun seems to have taken the first place in their mythology from a very early time, probably from an instinctive realisation of the same thoughts which brought about a religious revolution many centuries later under Ikhnaton, and the sun-disk with the outspread wings of the soaring hawk attached became the symbol of their religion. The Sun-god had originated from an egg or a flower, floating upon the Ocean in the beginning of things. (Their conception of the ocean included the Nile, which even at the present day is known by the same word as the sea in Arabic.) Four offspring of the Sun-god built the world on the ocean: Keb lay on the ocean and became the soil, Nut was raised as the sky upon the shoulders of Shu and Tefnut, who represented the air. From Keb and Nut, the earth and the sky, were born Isis and Osiris.

The Egyptian World.

The Sun was worshipped under many names, as Re; or Atum, the setting sun; or Kephri, the rising sun, written as a scarabaeus or beetle in hieroglyphic. At Edfu, nearly opposite El Kab, the old capital of Upper Egypt in pre-dynastic times, he was represented as the hawk of Horus.

The worship of Osiris, as the king of the under-world, the judge and lord of the dead, developed greatly. The tradition ran that Osiris had succeeded the Sun-god as king on earth,

THE WALL OF THE WORLD

The temple of Queen Hatshepsut, under the cliffs of the valley wall

with his sister and wife Isis as consort—the marriage of brother and sister was common in Ancient Egypt—but though greatly beloved by his people he was slain by a brother. Isis recovered the body, and embalmed it with the help of the jackal-headed god, Anubis, uttering meanwhile charms so powerful that the body was reanimated, and Osiris passed triumphantly to rule the Under-World, succeeded above ground by his son and avenger. The Osiris myth is peculiarly the appanage, or motive, of the mortuary practices, and is obviously less related to the life of the country itself than were the older anthropomorphic legends.

In so far as this volume has any particular views to expound, it will be found later that these early legends of the Old Gods are worthy of closer regard, in that they represent the essential features of Egyptian life for the common people.

The Old Kingdom.—After two dynasties of Menes' descendants had reigned at Thinis and Memphis, leaving scanty records of their activities, from 3400 B.C. to 2980 B.C. we come to the four dynasties which are collectively known as the Old Kingdom, the earlier kings of this period being the builders of the Pyramids. The country was divided into some forty administrative districts, probably representing the principalities of the pre-dynastic chiefs. These were known later to the Greek historians as *nomes*, and their rulers as *nomarchs*. Each *nomarch* was governor and judge within his own domain, with a system of local officials under his control, while he himself was responsible to the Pharaoh. Order was maintained by a kind of militia, whose duties appear to have been partly those of a police force, and partly fatigue-duty on buildings and irrigation works; there was as yet no standing army.

Even at the beginning of the Old Kingdom, in the reign of Snefru, boats were being built as large as 170 ft. in length, and cruises were undertaken to Phoenicia, presumably by following the Levant coast. Towards the end of the period we find Pepi I invading Palestine in person by sea, and his son

Menere prepared the way for the subsequent conquest of Nubia, quarrying five channels through the granite rocks of the First Cataract at Assuan, in order to facilitate the transport of ships to the upper reaches of the Nile. In his reign also expeditions to Somaliland (Punt) were frequently made, and there is evidence that intercourse was taking place with the islands of the northern Mediterranean, where the foundation of Mycenaean civilisation was being laid. Thus, during the Old Kingdom we find the narrow Nile-land stretching into contact with neighbouring countries, consequent on improvements in navigation, just as in pre-dynastic times the earlier developments of ship-building had brought together the component principalities under a common ruler.

Expansion.

The Old Kingdom is incidentally interesting because it practically ended with the longest reign known to history, that of Pepi II, which lasted not less than ninety years, and was possibly in itself the cause of the break-up of the kingdom.

Architecturally the Old Kingdom not only saw the rise and fall of the Pyramid design, but was even more remarkable for the evolution of the Column, which in the first instance was probably suggested to builders by the bundles of papyrus stems and the palm trunks used in the construction of their ordinary houses; its design was fully complete by 2600 B.C.

Three definite classes of society in the Old Kingdom are recognisable below the king. There were the common people, serfs on the crown lands or elsewhere, belonging to the land itself; there was a middle class of industrial, mercantile, and professional people, and there were the land-holding nobles, who rose later into prominence. In contrast to the giant splendour of the mortuary buildings, and the delicate artistic craftsmanship displayed in the houses of the king and the nobles, the serfs in the towns were herded in low mud-walled thatched huts, often laid out as a solid block of barracks.

Then, as now, and always, the wealth of the country was primarily agricultural. Wheat and barley, flax and vine, were the chief crops, with abundance of vegetables, all grown under the peculiar "basin system" of irrigation to be described in another chapter. Cattle, sheep and goats, with donkeys and poultry, comprised the live stock, the horse being as yet unknown. These sources of food supply were supplemented freely by game and fish from the jungles, of the east bank in particular, and vivid pictures of sport in the papyrus marshes with throwing-stick and bow have come down to us.

Crops.

The papyrus-plant itself was an enormously important asset to the Nile dwellers. Not only was it used for building huts, and for making light canoes, but its pith provided the original writing "paper." The possession of a running script, and of paper to write it upon, was an advantage of no small importance. Accounts and records could be kept in a small space, and an ambassador from Egypt could carry detailed instructions on his person, while his colleague from Babylonia had to be followed by a load of bricks.

Meanwhile the Babylonian empire was rising in the Tigro-Euphrates valley, with a different system of irrigation, clumsier writing and materials, brick architecture in place of stone, and was ultimately to collide with Egypt.

One other point of interest in the Old Kingdom may be mentioned. For a long while it was thought that a Bronze Age had succeeded the New Stone Age in Egypt as elsewhere, but it is now becoming evident that iron was in use at the time of the pyramid-builders. Being perishable, most of the iron implements have rusted away to dust, while other metals have survived. Moreover, bronze had not yet been made, and the drills and saws with which their mason-work was done were of hardened copper, and presumably of iron also. The smelting of the ore seems to have been effected by human lungs, since furnaces are depicted with a row of blow-pipes on

Metals.

either side, down which a staff of animated bellows is blowing furiously.

The Feudal Kingdom.—The ninety-year reign of Pepi II was succeeded by a chaotic state of affairs, which ultimately was resolved by the influence of a group of princes of Thebes into the epoch known as the Middle Kingdom, constituting the Feudal Period of Egyptian history.

The beginning of this power of the princely houses may be traced in the Fifth Dynasty, when we find officials putting their own name on commemorative inscriptions. Formerly everything had been done in the name of the king, and ostensibly by him. Now the successful general added a small postscript, remarking that this was his own work. Probably this tendency was accentuated as Pepi II grew old and feeble, but in any case the land was ravaged by iconoclasts, and the various princes struggled one with another until the Theban princes gained the upper hand, thus leading ultimately to the formation of the "hundred-gated" city sung by Homer, centuries afterwards.

Organisation.

The reorganisation of the State took place on new lines. It was impossible to suppress the nobles entirely, and they had to be won over. It was not until four centuries later that the princely power was ground between the upper and nether millstones of revolt and invasion, and Egypt again became the property of the Pharaoh. The Middle Kingdom was thus a feudal state. Probably in consequence of this we find the middle classes assuming greater prominence, and leaving their own monuments behind them, bearing the simple assertion "citizen" of such and such a town. The human interest of the monuments consequently becomes far greater. Another necessity for such a State was a standing army, wherewith the ruler could maintain a firm hand on his feudatories; this novel feature remained permanent, until many centuries later the Egyptian ceased to be a soldier and employed foreign mercenaries. This point is interesting in view

of the non-martial reputation of the latter-day Egyptian, before 1898 and the fighting which led to the re-conquest of the Sudan.

Mention of the battle of Omdurman reminds one of the steady organisation which preceded it, and of the desert railway which made it possible to maintain an army up the Nile. Such organisation was not new in Egypt. We read in the annals of the Middle Kingdom how bodies of men, equivalent to ten battalions, were provisioned on the march through the desert to the Red Sea. The records of the commissariat for 3,000 men survive, showing how each man daily was provided with two jars of water and twenty small cakes of bread, or 6,000 jars of water and 60,000 cakes each day. At intervals in the Eastern Desert there were established wells, cisterns, and colonies of officials and servants in charge of these watering-places.

Full details of the ethical standards of the religion are now available, and the examination which the dead were supposed to undergo before Osiris's judgment-seat required proof of the same virtues as those demanded to-day. This code evolved through degradation into a priestly " cramming " of the examinee, at a later stage of history.

Concurrently there developed a literature, consisting of tales of adventure (some of which were so popular that they were buried with the dead to entertain him on his journey), and philosophical discourses, while definite poetry makes its first appearance. The artistic productions of the age may be illustrated by the jewellery of the queens buried at Dashur, which has scarcely been surpassed by the goldsmiths of Europe.

Meanwhile the kings of the Twelfth Dynasty laid the foundations of the Egyptian Empire. Sesostris III extended the frontier of Egypt up the Nile to Wadi Halfa, which is to-day the political boundary between Egypt and the Sudan, and led an invading army into Syria, this being the first time that a Pharaoh had personally entered Asia.

Anemenhet III, who succeeded him, has come down to posterity as the king who devised the first storage works for the Nile, by regulating the influx and efflux from Lake Moeris, the modern Fayoum, which he also began to reclaim. After his reign ended in 1793 B.C. the dynasty began to crumble with internecine struggles between the feudal princes, and Egypt suddenly fell an easy prey to the first foreign invaders, the Hyksos.

The Hyksos Invaders.—The fall of the Middle Kingdom, the Hyksos rule, and the rise of the Egyptian Empire with the expulsion of the Hyksos, form another of the cloudy periods of Egyptian history, and much of the following outline is speculative, in sharp contrast to the exactitude of earlier records.

The Hyksos were Asiatics, who fell upon the quarrelling princes of Egypt and conquered the country, aided by their use of horses and chariotry. They ruled Egypt from the Delta city of Avaris, thus shifting the political centre of gravity towards their own country, which was possibly Kadesh on the Orontes in northern Syria, contiguous on the east with Babylonia and the Tigro-Euphrates valley. They thus ruled an empire which extended from Nubia to the Euphrates, though not for long. Various intervals of time have been assigned to their domination, but it would seem that a century at most will cover it. In their reign we find the first possible reference to the Israelites, with whom, indeed, tradition has identified them. Ultimately they were driven out by Ahmose I, loyally supported by the princes of El Kab, the fortress which had been the capital of Upper Egypt in pre-dynastic times. Ahmose I fought his way from his principality to the throne, against the Hyksos on the one hand and his fellow-princes on the other. He proved to be the upper millstone of the situation, and when the Hyksos had been expelled he remained sole owner of Egypt, its feudal states having been battered out of recognition. An organisation which had been a source of danger and unrest for centuries was thus extinct.

The temporary occupation of the country by the Hyksos left one permanent effect, through their introduction of the horse and chariot as an engine of warfare, and it is not unreasonable to speculate that the history of the next epoch, the Imperial one, might have been entirely different, and far more parochial, without such introduction. The rolling curtain of Egyptian history seems to display exactly the same series of developments as those which we have ourselves experienced more quickly during recent times. For their inventions of boats and sails, the tiller and rudder, chariots, and so forth, we have merely to substitute the locomotive and cycle, ocean liner and aeroplane.

The Chariots of Egypt.

The Early Empire.—The consolidation of the reconstructed kingdom, and its rise to become an Empire, began with Ahmose I in the year 1580 B.C. The history of this Egyptian Empire, excluding its final collapse, is cut sharply in two by an extraordinary religious revolution brought about by Amenhotep IV, more commonly known by his new name of Ikhnaton (B.C. 1375). Thenceforward the Empire was resumed until about 1200 B.C.

Dealing first with the Early Empire, we find that Ahmose I reconstructed Egypt on a military basis. Experience of fighting had been gained both by the king and the people, and military biographies are found frequently. As always happened in Egypt when any useful end was in sight, the new learning had been rapidly developed, and we read of divisions of the army, of wings and centre, flanking movements and outposts. The control of fire was developed, and, in place of desultory shooting as in former days, the famous bows of Egypt poured their arrows in volleys. The introduction of the horse and chariot has already been mentioned. The other weapons employed were the spear and another novelty in the form of a battle axe.

War.

Exerting a direct control on all the affairs of the country,

through an elaborate system of officialdom, the Pharaoh was of necessity an industrious monarch. The middle classes found official careers opening before them, and it was possible for the able man to rise from boy-clerk to the high positions which the State offered. Taxes were duly collected, largely in kind, although ring-money had been employed since the Old Kingdom, and a fiscal statement was prepared monthly. Tradition says that these taxes amounted to one-fifth of the produce of the land. Apart from the needs of the court and the army, of public works, justice, and government, an increasing amount of the revenue was absorbed by the complex State religion, now started fairly on a downward path leading ultimately to priest-rule, and to the fall of the Empire. Society was thus classified rather differently by the takers of the census of those days. The king was at the top, and the serfs—now nearly all royal serfs—made the foundations, but in addition to the craftsmen there was an increasing priestly element, and the " citizens of the army." The latter comprised not only the standing army, but those who were liable to military service.

Temples.

The temples became gorgeous palaces, each with its staff of priests, and the vestiges of their splendour which even now survive in the Theban plain, round modern Luxor, are marvellous in the eyes of the twentieth century. Ahmose I having been a Theban prince, Thebes became the centre of the Empire, and the obscure Theban deity Amon, linked with the old sun-worship under the name of Amon-Re, became the god of the State. Even in the Early Empire we can trace the corruption of this wealthy State religion by priestcraft; scarabei were placed on the breast of the dead—the beetle was the hieroglyph for the rising sun—bearing charms which should silence the heart, so that when the dead was brought to Osiris for judgment, his traitor heart should not cry out in witness against him.

To sketch the material glories of the Egyptian Empire is

THE AXIS OF LUXOR TEMPLE

beyond the scope and purpose of this book. Such buildings as the Hypostyle Hall of Karnak, in which the cathedral of Nôtre Dame could be hidden, with its forest of columns supporting architraves formed of single blocks of stone weighing 100 tons and more; or the 70-ft. sitting statues hewn from single blocks of stone brought indifferently from Cairo or Assuan; or the Valley of the Tombs of the Kings; or the most impressive of all Egyptian monuments, the Rock-Temple of Abu Simbel, still survive to humble our pride.

The temptation to digress into a description of at least one of these must be postponed to a later chapter, for we are not yet half way through the story of Egypt. Greece is beginning to become visible on the other side of the Mediterranean, and Egypt has yet to build her empire. Assyria has to overcome Babylon, and then in her struggles with Egypt destroy the Hebrews who lived between. We are coming into touch with the history of Europe; but the story of Queen Hatshepsut's expedition to Punt may first be mentioned.

The Dawning of Europe.

Hatshepsut was the queen of Ahmose III, and as the representative of the royal line was for many years the actual ruler of Egypt. She built a mortuary temple, now known as Deir el Bahri, on a novel plan, as a series of colonnaded terraces rising into the face of the cliffs opposite Thebes. In order to beautify the temple and render its terraces a fragrant garden for the god, she dispatched an expedition to Punt, as Somaliland was then known, at the instigation of an oracle. It was by no means the first time that such expeditions to Punt had left Egypt, but the primary purpose of this one was to bring back living trees of myrrh, to plant on the terraces. The expedition duly accomplished its purpose, returned laden with treasures, including a live panther, and it arrived at the quays of Thebes with thirty-one living myrrh-trees, which were duly planted on the terraces. A botanical expedition for plants growing 2,000 miles away, to gratify

the whim of the queen, was then handed down to us in a series of commemorative paintings on the temple wall.

Turning now to the political situation, we find Egypt in contact with the Libyan peoples of the west, at her north-western corner. On the east, by way of her mines in the Sinai peninsula, she was occasionally constrained to punish raiding parties of desert nomads. To the south were the Nubians, on the trade route up the Nile to the Sudan. Out of direct contact with Egypt proper there were important states, Babylon being the oldest, and lying in the peninsula between the confluence of the Tigris and Euphrates, just above the head of the Persian Gulf. Further up the river Tigris was a city-state which was later to grow into the conqueror both of Babylon and of Egypt, under the name of Assyria. In and around the south of Greece the civilisation known as Mycenaean was developing, already in contact with Egypt, and strongly influenced by her, ultimately to found the civilisation of modern Europe through Greece and Rome. The power of the Phoenicians was spreading out to sea, their country being hemmed in on the landward side by the mountains of the Lebanon, and by powerful rivals inland behind these mountains. The relations of these latter inland states are rather obscure, but they may be sketched as follows. The Hyksos, who had been recently expelled by Ahmose I, seem to have shrivelled up to a small State centred at Kadesh on the Orontes, from which they had presumably come, and were soon conquered by a people called the Mitannians, who were an offshoot of the Hittites. The Hittites themselves ultimately dominated this district of northern Syria, expanding into it from their own country in the east of Asia Minor. The spheres of influence of all these nations at one time or another touched in Palestine-Syria, which thus became the cock-pit of the known world.

The clash of arms and politics, ringing down through the ages to the present day, has less essential interest for us as

students of *Egypt of the Egyptians* than the life and discoveries of the Pre-Dynastic period and the Old Kingdom, and the briefest outline must suffice.

Amenhotep I succeeded Ahmose I. He recovered Nubia, expelled some Libyan invaders, and penetrated into Syria. His successor, Thutmose I, extended his domains in Nubia up to the third cataract, and in Syria his armies reached to the Euphrates, at the expense of the remnant of the Hyksos. After minor disagreements he was succeeded by Queen Hatshepsut, mentioned above, and her husband Ahmose III. The latter had begun life as a priest of Amon, made king by a declaration of the god himself—undoubtedly skilfuliy stage-managed by the priests—but for the first twenty years of his reign (from 3rd May, 1501 B.C., to 17th March, 1447 B.C.) he was held in the leading strings of his royal wife. On her death he was free to exercise his energy in accordance with his bent, and he fought campaign after campaign in Asia until 1459 B.C. His energy was inexhaustible, dealing with abuses of home administration by one hand, and launching his armies by the other. From Asia Minor and the Euphrates, to the Upper Nile and to Somaliland, from the islands of the Levant, the Aegean, and Italy, from Libya and the desert Oases on the west, and from Babylon on the east, tribute was rendered to him in subjection, fear, or friendship. Withal he would seem to have been a just man, simple and direct, and he stands out of the gallery of Egypt's rulers as something more than a name and title. His body is in Cairo, and one of the pair of obelisks raised to commemorate his great jubilee stands on the Thames, while its fellow guards the other side of the Atlantic in New York. When the funeral procession wound its slow way up the desert road to lay him to rest, deep in the heart of the desert hills which encircle the "Valley of The Tombs of The Kings," the mourning crowds by the Nile banks were witnessing the end of a career which has few peers in the world's history.

Ahmose III.

His son Amenhotep II took a speedy revenge on those misguided vassals who imagined that the old *régime* was dead with the old king, and held his father's conquests without further trouble. Herodotus's legend that Cambyses of Persia was unable to draw the bow of the King of Ethiopia probably originated with the great physical strength of this Pharaoh, whose bow was buried with him. In the next reign, of Thutmose IV, the waxing power of the Hittites began to threaten the empire, though only politically, and when Amenhotep III succeeded to the throne, the power of the empire began to wane, although its influence was externally as great as ever. In his reign a new form of temple was designed, which almost certainly determined the direction to be taken by Greek architecture, and the " Colossi of Memnon " were the guardians of his mortuary temple ; but towards the end of his time the Asiatic dominion of Egypt was threatened by the Hittites from the north, and by the desert nomads elsewhere. At this moment, when the hand of another Amenhotep II was needed, fate sent Egypt as her king a man whom posterity is beginning to recognise as one of the great philosophers of the world, in the form of Amenhotep IV, otherwise called Ikhnaton.

The Hittites.

Although Ikhnaton's reign occurred in the middle of the Empire period, he did not belong to it, and he must needs be discussed separately, however briefly.

The Revolution of Ikhnaton.—In the reign of Amenhotep III the strong individuality inherited by the descendants of Ahmose I had taken a new direction. The attention of the Pharaoh, safely seated on an imperial throne, without any possible further ambition in the direction of territorial aggrandisement, had turned to art, sport, social problems and philosophy. One novel peculiarity of Ikhnaton's predecessor was the prominence given to his queen. There had been queens of Egypt in former times, but they came to power but rarely,

Feminine Influence.

and then as the result of a conjunction of political circumstances; even Queen Hatshepsut had been merely the dominant political partner of Ahmose III, and the strain which her presence entailed on convention can still be traced. Her descendants elevated their queens to the level of Queen-consorts.

When Ikhnaton succeeded his father as Amenhotep IV, this feminist movement was intensified, and his wife, his mother, and the husband of his former nurse, had place among his chief counsellors. The imperial spread of Egypt had brought new forces into play, often in direct opposition to those traditions which had evolved within the attenuated and isolated Nile Valley itself. It fell to the lot of Ikhnaton to interpret the essentials of this new situation. Had his dynasty existed even a century sooner, he might have altered the history of civilisation, by altering Egypt, and through her the classic world. Unfortunately, his attempt to generalise and rationalise thought and custom fell just too late for circumstances, and this although his ideas were far in advance of his time; the Hittite kings were emerging from their fastnesses in Asia Minor, and force, not philosophy, was the prime necessity for the situation. Had the emergence of the Hittites been delayed for a century, Egypt might have been reorganised on the new basis, with effects which can scarcely be overrated; as it happened, while Ikhnaton was absorbed in domestic and mental reforms his empire was lost, and Egypt was thrust back within the limits of the Nile valley once more.

A New World.

Yet in spite of the material loss, leaving the imperial work all to be done again, Ikhnaton was right. With him the history of Egypt, as Egypt, comes to an end. His successors restored the empire, only to find it priest-ridden, and it fell into decay; thenceforward until recent times the history of Egypt is that of a fertile, feeble country, living from hand to mouth, and exploited in varying degrees by successive world-powers,

A Lost Opportunity.

who were sometimes bewitched by the magic influence of her Old Gods, and always took tribute from her. Even her practical independence under the late Khedivial Dynasty of Mohammed Ali was little better, and it was not until fate threw her into England's unwilling hands, as a necessary concomitant of the Empire of the Seas, that some glimmering of her real significance in the shrunken modern world began to dawn on her rulers. From the death of Ikhnaton in 1358 B.C., almost to the accession of Sultan Hussein in A.D. 1914, the history of "Egypt of the Egyptians" is at a standstill. Her fortunes ebbed and flowed, foreigners lent to her and borrowed from her, but the total value of her contributions to the thought and art and civilisation of the world during these three millennia was smaller than that which she had made before ever Menes founded the First Dynasty.

The Man.

In considering Ikhnaton's deadly effect on his country's immediate fortunes, he must not be misjudged as a mere dreamer. On the contrary, he was a man of strong purpose, and of action vigorous to vehemence. His conscience and conviction were like those of the Scottish Covenanters, driving him to violate even the tombs of his forefathers to obliterate the hated name of the god he knew to be false. His strength of purpose was such that he forsook Thebes, already all glorious without and within, and built new cities for the new faith; in Egypt at the modern Tell-el-Amarna, in Nubia, and in Syria. His reign lasted twenty years or less, and in less than twenty more all obvious trace of his influence was destroyed; only within quite recent years has the world realised that its course might have been entirely different.

A World-God.

The outline of facts was roughly as follows. For an empire embracing the known world, the local gods of Egypt were clearly inappropriate. Ikhnaton sought a world-god, and found him—with differences—in the Sun, which had been the origin of all the Gods of Egypt, as we have already seen. But his

conception of Re was new ; in place of simple sun-worship he deified rather the vital heat, of which the sun was the symbol, and thus he developed the conception of a beneficent deity whose interest extended to all living things, whether Nubian Syrian, or Egyptian, to the chick in the shell, and to the flower on its stalk. One result of this conception was the composition of hymns which anticipate the spirit, and even the words, of such compositions as the Hundred and Fourth Psalm of David.

To mark clearly the new conception he abandoned the name of Re, reviving an obsolete title, " Aton," and devised a new and universal symbol, a solar disc with its rays ending in hands, the significance of which was obvious to the foreigner. The priests of Amon-Re, the State God of Thebes, bitterly resented the abolition of Amon, which extended even to the king's own name, Amen-ho-tep being changed to Ikhn-aton, and the common people felt lost without the sympathetic Osiris-myth. All the corruption of priestcraft was swept away, charms and indulgences were abolished, and although the mortuary practices were retained, they were reconstituted as an expression of the new and simple faith.

A startling change is seen in the art of the period, showing how closely art and thought are connected. The few years during which Ikhnaton's influence lasted were long enough to brush away the old conventions by which the Egyptian artist had been cramped since the beginning of the Old Kingdom, and the king, his subjects, and possessions, are depicted naturally and vividly, in common occupations.

Meanwhile the Hittites were approaching the frontier of Egypt, having overrun the Asiatic portion of the Empire, Nubia was revolting, the dispossessed priests of Amon were burrowing and undermining, there was no son of Ikhnaton to carry on his work, and he himself was worn, haggard, and fragile. He

Failure.

died about 1358 B.C., and was buried with his second daughter, who had died before him. Thus ended the greatest dynasty of the Kings of Egypt. They left less advertisement behind them than their successors, and they ended in a failure, but the effort was worth even a failure.

THE QUAYS OF OLD THEBES

CHAPTER II

THE DECADENCE OF EGYPT

" You've a better chance to guess
At the meaning of Success
(Which is greatness—*vide* press)
When you've seen it in perspective in the files."
—*The Files.*

The Middle Empire.—After the death of Ikhnaton the power of the priests of Amon augmented, and his ephemeral successors became renegades. Meanwhile a member of one of the nomarch families, named Harmhab, an organiser and man of affairs, rose to be the most powerful man in the State, now centred again at Thebes. With the power of the priests behind him the next step was the throne, and a new Dynasty, the Nineteenth, was founded. Harmhab was too busy reorganising to attempt much in the way of conquest, though he ordered affairs in Nubia, and sent expeditions to Punt. As has always been the case in the East—sometimes in the west as well—the weak government of his predecessors had provided a rich harvest for corrupt officials, and one of Harmhab's principal tasks was to restore integrity to the administration, by putting checks on bribery and " baksheesh," on place-hunting and the misappropriation of taxes.

Reorganisation.

He was succeeded by the first of the Rameses, already an old man, who began the Hypostyle Hall of Karnak.

Seti I was the next king. He had been co-regent with Rameses I, and under his influence the Empire was largely restored, the preliminary consolidation of Egypt itself having been effected by Harmhab. Seti I may be recognised as the founder of the Rock-temple of Abu Simbel, although it was not finished in

The Empire.

his reign, and was appropriated by his successor. He began his military operations by restoring the desert roads, wells, and colonies on the way to Palestine, and also developed new gold-mines. The art of his reign stood at a high level, profiting by the vanishing remains of Ikhnaton's influence. Having established his lines of communication through the desert, Seti I led his army into Palestine, smote the Bedouin nomads, and invaded Syria. His next campaign was in the following year against Libyan invaders of the Delta, and these having been disposed of he returned to Syria, recovering a great part of the Empire of Ahmose III, up to the edge of the Hittite dominions, keeping the latter people back from Palestine, and ultimately concluding a treaty with them.

With the rise of the Hittites the Egyptian Empire in Asia was doomed. The Hittites belonged to that country, while the Egyptians were foreigners. Geographical factors were asserting themselves once more, and though Egypt had been able to overflow from the valley of the Nile, such overflow was along the line of least resistance. When this channel was obstructed by the Hittite power, the Asiatic dominions of Egypt were no longer stable.

Rameses II started an ambitious career of conquest, which ended by leaving him very much where he began. He seems to have been a dashing leader, but a poor general, and at the beginning of his career his army in Syria would have been annihilated at Kadesh, had he not staved off disaster by a brilliant personal chariot-charge. He repressed a revolt in Palestine, and after endangering the Hittite Empire signed an alliance with it. He desecrated the temples of his predecessors indiscriminately by inserting his own name on them, and founded the modern trade of advertisement, which he carried to extremes by leaving a hundred sons, and many daughters.

Literature developed extensively, and nearly reached to the epic poem, but the spirit of originality was dying out in

Egypt, just as the spirit of inquisitiveness had died long before, and a new factor was beginning to affect the State in the form of an increasing population of foreigners, both as merchants and as mercenary troops.

Waning Power.

Mernepthah and Rameses III merely held the Empire with mercenary troops against the Libyans, and against the rising peoples of Southern Europe, so that when Rameses III placed his temple of Medinet Habu at the southern end of Thebes, the Egyptian Empire had no more vitality left in it. The priests were absorbing the wealth of the country, while starving workmen were going on strike in order to get their wages for building the very structures in which this wealth was stored. Rameses III died during a trial of conspirators in his own harem, in the year 1167 B.C.

The most striking feature of this second period of the Empire is perhaps the entirely different personality of its rulers, in comparison with those of the preceding dynasty. In place of the deep-seated vigour of thought and action shown by Ahmose III and Ikhnaton, we find a restless, immodest, even blatant versatility, which effected much, but still did less than it proclaimed.

The Decadence ; Libyan, Ethiopian, and Assyrian Rulers.—A rapid succession of weak Ramessids now filled the throne of Egypt, held more and more firmly under the thumb of the High Priest of Amon at Thebes, whose office had become hereditary. The power and pretensions of the priests may be judged from the fact that they now depicted themselves on monuments as figures of equal size with the king.

A local Delta noble of Tanis acquired control of the Delta, and founded the Tanite Dynasty. The Philistines, who had come originally from Crete, revolted in the Asiatic remnant of the Empire, and the Hebrews founded their monarchy. Thebes remained an independent priest-state for a while, but finally submitted to the Tanites.

The next dynasty was founded by a descendant of Libyan

mercenaries, named Shesonk, who took the throne in 945 B.C., as the first definitely non-Egyptian ruler, if we except the Hyksos. He legitimised his position by marriage with the Tanite family, and ruled a feudal state, with all its risks of disintegration. He was probably the Pharaoh with whom Solomon had dealings, and who subsequently conquered Palestine in the time of Rehoboam.

This Libyan Dynasty was succeeded by a feeble Twenty-Third Dynasty of native princes of Bubastis, under whom the power of the feudal states again increased at the expense of the king, and the State of Egypt, which had once been swayed as a single whole by the hand of Ahmose III, disintegrated into a muddled mass of petty principalities like those from which it had been built up in pre-dynastic times. Meanwhile the might of Assyria was growing.

The Blacks.

Before the inevitable conquest by Assyria took place, Egypt was to pass for a while, by the strangest of ironies, under the heel of a country which she herself had made, The land of Nubia had already shaken off its allegiance to Egypt, and become independent under the influence of exiles from Thebes. Its negroid King Piankhi now invaded Egypt, and displayed no small military ability in conquering the country. On his withdrawal the Delta revolted, and was united and independent for a while, but the land was now economically unstable ; the irrigation works were going to ruin for lack of a strong central government. The Nubians came down the Nile again and established themselves permanently, forming a coalition with Asiatics against the Assyrians, and getting well beaten by Sennacherib for their trouble. Egypt was almost within the Assyrian's grasp when pestilence smote his army while it was engaged in the reduction of Jerusalem, and he had to withdraw.

Under another Nubian king, Taharka, a direct attack by Esarhaddon, the successor of Sennacherib, was checked at first, but in 647 B.C. a fresh assault succeeded, and the

Delta was conquered by Assyria. The occupation was not permanent, and a revolt followed the withdrawal of the invading army, to be subdued by Ashurbanipal, son of Esarhaddon. After more revolts the Assyrians extended their conquest to Upper Egypt, culminating at the Sack of Thebes in 661 B.C.

Assyria.

The Nubians withdrew to their own country, their power at an end. Their conquest of Egypt was not a very great achievement, when we consider the decrepit state of the country, but those who know the Nubian of to-day find it hard to realise that a state once existed there which was capable of effecting even this much. The Egyptian influence in Nubia died out, the Blemmyes and Abyssinians invaded it, and the country relapsed into a semi-barbaric condition.

The Restoration.—To the casual observer it might have appeared that Egypt had nothing more to hope for, except as a vassal and granary for some foreigner, but she always had, and always will have, several surprises up her voluminous sleeves; within twenty years from the Sack of Thebes she was again independent, and more. A true Restoration had been effected. Although there was no longer any possibility of permanently re-creating the glory and glitter of the Early Empire, yet the restoration, modelled on the Old Kingdom, was more suggestive of the real Egypt.

The Egyptian Restoration is to be traced back to the various revolts which took place during the Assyrian occupation. An Egyptian named Necho was made ruler of Sais by the Assyrians, Sais being a principality situated in the north-western Delta, between modern Tanta and Damanhour. He plotted with the Nubian King Taharka, was sent as a prisoner to Assyria, where, being a wily person, he ingratiated himself with his conqueror and was restored to Sais, and helped faithfully to hold the Delta for the Assyrians, being killed in a Nubian invasion.

Assyria.

His son, Psamtik I, succeeded him as ruler of Sais and of Memphis also. He consolidated Lower Egypt, while the attention of Assyria was engaged elsewhere, and finally made himself King of Egypt, defying the waning Assyrian power. In so doing he was helped by mercenary troops from Asia Minor, and with them, aided by his diplomatic astuteness, he entirely suppressed the power of the local feudal lords. Thebes yielded to him in 652 B.C., and so far had the power of the priest of Amon fallen that Psamtik appointed his daughter Nitocris as High Priestess. The service of Amon, whose High Priest had rivalled the Pharaoh, was in the hands of a woman!

The beginnings of Greek influence in Egypt are now traceable, in the Greek and Carian mercenaries whom Psamtik employed, counterbalancing with them the Libyan troops of the preceding dynasties. To maintain this military power he developed the economic resources of the country, and he made this firm economic basis possible by maintaining peace and order with his strong military power. This was a vicious circle, as compared with the old order, but it was inevitable in the new nature of things. The warrior spirit of the Egyptian had either died out, as is usually stated, or else had not developed to fit the exigencies of the new warfare.

Greece.

The rapid recovery of the country might seem to indicate that things had not been so black in the preceding half-millennium as they have been painted. But Egypt's power of recuperation has always been astounding, simply because she is based on such simple foundations. Given water to put on the land, and seed to sow, her agriculture flourishes automatically; given peace, her transport system has been provided by the river, without which there could be no crops to transport.

The Stability of Egypt.

The restoration was not only material, but it was a deliberate and conscious attempt to return to the "good old times" of the Old Kingdom, and in this it failed. The Old Kingdom

had been a stable organisation, suited to the narrow world in which it found itself. The restoration was of a Western Mediterranean State, one amongst others. The difference may be realised by the permanent transfer of the State-centre to the Delta, where it has since remained. The days of the past were fondly dwelt upon, and the " dead language " of the hieroglyphs was resuscitated for formal purposes, but the writing and speech of common use were fitting themselves to circumstances, in a free-running script, known to the Greeks as the writing of the people, or " demotic." The official organisation was modelled on that of the past, again with little relevance to its real functions. The religion also took new lines of development, drifting away from the world of shadows in which the priests lived; the cult of Isis, consort of Osiris, began to rise to the importance which it attained under the Ptolemies, and animal worship was carried to extravagant lengths. Even the art of the period refused to follow the ancestor-fetish which was the vogue, and developed features new to the country, with greater freedom of execution; work was produced, especially in portrait statues, which rivalled the later classic period of the Greeks.

New Status.

The restoration of the irrigation system and the establishment of peaceful government, combined with the king's first-hand knowledge of the Assyrian Empire, led to the development of extensive commercial intercourse with the surrounding world. Egypt was no longer her own master; for good or evil her actions had to be compromised to fit with those of other nations, however independent she might be. She still had enormous advantages, and might still have taken the place in the world's history which was filled by Greece, but the Greeks owned the inquisitive mind which Egypt lacked. Details of craftsmanship had been worked out in Egypt, and the tools lay there, ready to the hand of those who could copy and use them for more far-reaching purpose than the sterile repetition of past achievements.

An attempt at Asiatic Empire was made by Necho, who succeeded Psamtik in 609 B.C. The time seemed opportune, for Assyria was falling under the assaults of the Scythians, Medes, and Babylon. A navy was built, Syria invaded, Josiah the King of Judah was defeated, and the Euphrates was again reached, but meanwhile events had been moving rapidly in the Tigro-Euphrates valley. Nineveh had fallen to the Babylonians, and instead of Assyria, the Egyptian army found itself facing that of Babylon. It was routed, and retreated through Palestine, followed by the mocking laughter of the Hebrew prophet Jeremiah, exultant in his shrewder knowledge of statecraft, which had foreseen the event.

Babylon.

In this reign the continent of Africa was first circumnavigated by a fleet of Phoenicians which Necho equipped. The next reign, that of the second Psamtik, was marked by an invasion of Nubia up to Abu Simbel, which left no lasting effect, but his successor Apries, or Hophra, made his mark on the world by persuading Zedekiah, King of Judah, to revolt against Babylon, with the result that the Jewish nation was annihilated by Nebuchadnezzar.

Sea-power.

The reign of Apries had been prosperous, but it ended disastrously, in a revolt of the soldiery. A relative of the king, named Amasis, who had been commissioned to deal with the revolt, joined the mutineers, and himself became king. The influence and power of the Greeks increased rapidly, deftly controlled by Amasis, who cut down the temple supplies to keep his army strong. He was too powerful for Nebuchadnezzar to assault him, which was a sad blow for Jeremiah and Ezekiel, who had confidently prophesied the fall of Egypt.

In the reign of Amasis there was one important development, which reminds us simultaneously of pre-dynastic times and of England's presence in Egypt to-day, namely, the rise of the Egyptian navy. There had been ships and fleets

of war in Egypt and Phoenicia for generations, and naval officers under Ahmose I, but only as a means to an end. Now the significance of sea-power as an end in itself was beginning to dawn on the world, and appropriately enough, Egypt provided it. Thenceforward, up to the present day, the only sure receipt for holding Egypt is to hold The Seas also.

In the midst of the prosperity of the restoration, Egypt fell, never again to hold her place among the nations who divide the world between them. Her fall was due entirely to external causes, since internally she was strong and self-sufficient for many years to come. From the east, beyond the Euphrates, Cyrus the Persian had sprung on the stage of the world. He overthrew the Medes in the year 550 B.C., and the remaining powers of the world leagued themselves against him to be destroyed piecemeal; Croesus of Lydia fell in 546 B.C., Babylon in 539 B.C., and Egypt only survived the death of Amasis a few months, to pass into subjection by Cambyses in the year 525 B.C. In twenty-five years Persia had conquered the world, and except for a few sporadic revolts, Egypt was never afterwards ruled by an Egyptian king.

Persia.

The Persians.—The period of the Persian Dominion of Egypt may be dismissed very briefly. It lasted from 525 B.C. to 332 B.C., with intervals during which native rulers gained possession. The tragedy of Cambyses has a sinister suggestion of the troubles met by later armies up the Nile. He led an expedition into Nubia without organising his commissariat properly, and there, in the narrow valley, where there often is only a yard or two of cultivation by the side of the river, his food supplies ran out, and men ate men. The madness of Cambyses is probably to be traced to this catastrophe, by way of sunstroke. Under his successor, Darius I, the mere exploitation of the country was abandoned, and proper organisation brought about a rule which was more like that of the preceding dynasty of Saiite kings. Darius was

succeeded by Xerxes, who was chiefly busy in Asia, and then by Artaxerxes. Xerxes II and Sogdianus ruled only for a few months, while in the reign of Darius II the Persian rule collapsed, in 405 B.C., under native revolts.

We then find three dynasties of native kings, the twenty-eighth, twenty-ninth, and thirtieth, only the last being of any importance. Greek mercenaries were hired, and the Sebbenyte princes who ruled in the thirtieth dynasty left behind them many buildings and much good art. In general, however, there was no particular difference from the Saiite Restoration. This dynasty fell in 342 B.C., and for the next ten years the country went to ruin; the Persians again held Egypt, but their hold could not be called a governing; their faculty for government seemed to have forsaken them, and mere rapacity was their forte. Consequently, when Alexander the Great, of Macedon, came to Egypt, there was no need to resort to force of arms. The country greeted him as a deliverer, and the Ptolemaic period was founded.

The Macedonian Conquest and the Ptolemies.—With the advent of Alexander the Great and the Ptolemies we begin a new epoch, marked by a very essential distinction. We have already seen the end of Egypt as a nation; now we approach the death of Egyptian civilisation. Formerly, whatever country had come in contact with Egypt had found her civilisation stronger than its own, and had been Egyptianised. Now the civilisation of the Greeks had reached a level at which it mastered that of Egypt, to which it owed so much in its earlier development, and Greek culture influenced Egypt more than Egyptian culture influenced Greece.

A New Civilisation.

The old habits and customs of Egypt, its temples and gods, still formed convenient pegs on which to hang the new interpretations, but the change is none the less obvious. The most bored and weary chaperone, dragged up the Nile and down again under the wing of Cook's, very seldom goes wrong in

distinguishing the Ptolemaic temple from the older article. A lighter and more florid grace distinguishes the details of such buildings from those raised by purely Egyptian genius; the suggestion of classic architectural influence is not obvious, since the main features of Egypt still persist, such as the colossal pylon-wall of the temple front, but the primaeval massiveness of Egypt has vanished in spirit, though it still is there in stones.

From the first entrance of Alexander, in 332 B.C., the attitude of the Greeks was that of a people who were so assured of their own civilisation that it would have been to them an act of gratuitous discourtesy to insult that of Egypt. The local religion was treated with consideration and respect, and the gratified priesthood threw the weight of their influence into the Greek scale. They arranged that Alexander should be adopted by Amon as the son of the god himself, after a great state progress to the temple of Amon (Jupiter Ammon) in the Oasis of Siwa. For some obscure reason, Alexander did not visit the old home of Amon at Thebes for this ceremony.

He left his mark on Egypt in the foundation of Alexandria, lying west of the present Rosetta mouth of the Nile, to which city his body was ultimately brought for sepulture in a coffin of gold. Alexandria is one of the rare examples of a new city which at once rose to the position it had been intended to fill. Its modern representative has shifted somewhat from the original site, but it is still the great port of the eastern Mediterranean, still polyglot, and only architecturally has it fallen from Alexander's conception of a city. The original foundation was laid out like a modern American town, with a systematic plan, the main thoroughfares being 100 ft. in width, colonnaded walks on either side. The harbour was the smaller bay lying to the east of the headland promotory now known as Ras-el-Teen, whereas the modern harbour lies under its western shelter.

Alexandria.

Alexander left Egypt under the control of governors, well arranged so as to avoid risks from their possible conspiracy against him, but not very successfully as regards the welfare of the country. On his death there were unseemly squabbles among his generals regarding the division of his Macedonian Empire, but Egypt had been ear-marked for Ptolemy. This founder of The Ptolemies had risen from an obscure position in the army, to be a high officer and the emperor's friend. During the life of Alexander's son, under the regency of Perdicas, he ruled Egypt for him, and does not appear to have proclaimed himself King of Egypt until young Alexander's death. He brought the corpse of the great Emperor to Egypt with him, for interment at Alexandria.

The First of the Lagides.

His rule was marked by long and complicated wars, including an attack by the regent Perdicas, and by considerable military successes. He diplomatically added to his kingdom the Hellenic colony of Cyrene on the west, occupied Cyprus, and intermittently occupied Palestine—to the extreme discomfort of the Jews—finally establishing his sway over lower Syria and Phoenicia, and far down the Red Sea, handing it over to his successors for a century.

He struck the first independent Egyptian coinage, apart from the primitive ring-money—it is curious that scarabs disappeared simultaneously with the appearance of these coins,—built a large fleet, founded the world-famous Museum and Library of Alexandria, and economised the resources of the country. His rule was marked by good temper, sense, and ability, He might have been regent of Macedonia, but he preferred the lesser task, done thoroughly, to the position which was ostensibly greater.

In view of the previous remarks on the conflict of civilisations, it may seem curious to find that the Ptolemies from their founder onwards, adopted the characteristically Egyptian custom which we call incest, together with polygamy. The marriage of brother and sister has been

condemned by the civilisation of Europe, but from the viewpoint of Egypt, with her semi-divine kings, it was the surest and safest means of guaranteeing that the sacred royal strain should not be contaminated by base blood. It entailed serious risks of racial degeneration, but on the other hand, given good luck, it maintained greater identity of personality and purpose throughout a dynasty. There was more permanence in the kingship, and the death of the king meant merely that he would be succeeded by another king, and not by another personality, who might have inherited an utterly different outlook on the country's problems. Such permanence was well suited to the age-long civilisation of Egypt. It does not seem to have worked so well in the more modern environment of the Ptolemies.

Sister-marriage.

Ptolemy II succeeded his father, on the latter's voluntary abdication in 285 B.C. His reign was one of great splendour, and it begun the long series of Ptolemaic temples. The chief event was that in 273 B.C. he offered friendship to the Romans, which was accepted and reciprocated, with lasting effects on the history of the country. In spite of the intervening 2,000 odd years, we meet with a comical anticipation of modern Egypt in the mixed writings of the time; Greek and the Demotic script were simultaneously employed, just as the Englishman of the Egyptian Government of to-day struggles at his desk with official documents in French and Arabic.

Rome Appears.

Subsequent Ptolemies added much to the artistic wealth of the country. Such temples as Edfu and Kom Ombo are in our debt to them, and some of them exerted a controlling influence on the politics of Greece. Wars were fought, and another anticipation of modern conditions crops up when we read of the supposedly effete Egyptians being trained into a portion of the army, fighting in the Macedonian phalanx-formation, obeying Greek or Macedonian words of command. In the time of Ptolemy V, who acceded as a child, Macedonia and

Syria attempted to divide Egypt between them, and were soundly beaten by Rome. Rome was not altruistic, however, and did not return the conquered provinces to Egypt. Still, even without these external dominions which Ptolemy I had won, the Ptolemaic kings were the richest rulers in the world.

The later members of the race are often empty names, effete with luxury, complicated in their matrimonial relationships with queens whose conduct was rather tigerish than human. Wealth, fratricide, and depravity, mark the later stages of the period. The reign of the Ptolemies had been founded by one famous name, and it ends with another, scarcely less celebrated, that of Cleopatra.

The story of Cleopatra is irrelevant to the history of Egypt itself, but so also are almost all the events recorded in the latter part of this chapter. In any event she is one of the notable figures in the Egyptian gallery, and the reader might feel cheated of human interest were she to be omitted.

Cleopatra.

Her father was Ptolemy XIII, who had a lively apprehension of the greed of Rome. He left his throne to a son aged ten, named Ptolemy XIV, and to his daughter Cleopatra VI, with the provision that they should marry. Pompey was then struggling with Caesar, and sent his own son to Egypt for supplies. Cleopatra was unduly agreeable to the visitor, thus arousing the resentment of her brother, who expelled her from Egypt in the fourth year of their joint reign, when she was about twenty years old. She raised an army in Syria and advanced to Pelusium (to the east of modern Port Said and on the edge of the Delta of those days), where apparently she was defeated by Ptolemy's forces, in whose camp the fugitive Pompey had been murdered a short while before, while seeking safety from Caesar after his defeat at Pharsalia. Shortly afterwards Caesar himself arrived at Alexandria, which cosmopolitan city was now the capital of Egypt, proceeded to adjudicate

Julius Caesar.

on the claims of the sister and brother to the Egyptian throne, and the famous romance began.

Ptolemy had counted on Caesar's favour in exchange for his share in the death of Pompey, and was therefore not unreasonably annoyed when, on Cleopatra's arrival from Syria, Caesar was subjugated by her, becoming her acknowledged lover, and most distinctly disqualifying himself from acting as an impartial umpire. Ptolemy gathered together his miscellaneous forces and nearly captured Caesar, finally besieging him, with Cleopatra, in the palace of Alexandria. Caesar was obliged to burn his fleet, was cut off from the sea and nearly cut off from his water-supply, with only 2,000 soldiers to help him hold the palace until the army of Mithridates could bring him relief from Syria. On the arrival of this relief force, battle was given, and Ptolemy XIV fell. In order to regularise matters somewhat, Caesar decreed that the younger brother of the dead prince (and also of Cleopatra) should marry the young queen; Cleopatra and Ptolemy XV thus became the rulers of Egypt. The marriage was merely nominal, and Cleopatra accompanied Caesar to Rome, where she lived with him till he was assassinated, in about her twenty-fifth year. Her child Caesarion, by Caesar, was thenceforward the main object of her care and policy.

Egypt had meanwhile been under the control of three Roman Legions left there by Caesar. On Cleopatra's return she ruled in association with her son, and preserved a diplomatic neutrality with respect to the internecine struggles of Rome. Famine and pestilence provided her with further excuses for inaction. The second, and less estimable, of her amours began from the victory of Octavian and Anthony at Philippi, when the eastern empire of Rome was consigned to the care of the latter. He summoned her to Tarsus to account for her actions, but when, instead of a cringing suppliant, Aphrodite herself appeared in a triumphal car on the waters of the Cydnus, Anthony proceeded to lose his head irrecoverably. He

Mark Anthony.

returned with her to Egypt, though ultimately he was compelled to go back to Rome, leaving her with twin sons by him. He entered the danger-zone again when he was sent to Antioch to fight the Parthians; there Cleopatra joined him, and was given whole provinces. She preceded him to Egypt by way of Palestine, where Herod the Great desired greatly to make an end of the young queen who, by trickery, was taking the spoils which he had hoped to win for himself. She was not yet thirty. Policy and the fear of Anthony were too strong for Herod, and he had to meet her with smiles and escort her with ceremony, back to Egypt. Anthony failed in his first Parthian campaign, but was helped by Cleopatra to success in the following year. Thenceforward her influence over him had no bounds; he gave all his conquests to her, to Caesarion, and to his twins, till the old Empire of Egypt was theirs again. This last folly touched Roman opinion on the raw, and Anthony was challenged. At the battle of Actium which followed, Cleopatra fled with her Egyptian fleet, as soon as defeat was in sight.

On Octavian's arrival in Egypt, following the death of Anthony, she tried a woman's weapons without impressing his colder blood, and poisoned herself to avoid the shame of exhibition in his Triumph at Rome. She was seventeen at her accession, double that age at her death. Her precautions for the safety of Caesarion failed through the treachery of his tutor, and he was murdered by Octavian.

Egypt had escaped from being involved with the early administration of the Roman Republic, and now passed smoothly to the position of a province of the Roman Empire, with its reformed system of provincial management. Internally there was no change. Probably the world-drama which involved Caesar and Brutus, Anthony, Cleopatra, and Octavian, and the hapless Caesarion also, was unknown to the people of Egypt, so remote had their existence become from the forces of world-growth which had once surged round and within them.

Parochial Egypt.

CHAPTER III

FROM ROME TO BRITAIN

" Were it a question of lawful due
Or a labourer's hire denied,
Reason would I should bear with you
And order it well to be tried.
But this is a question of words and names,
And I know the strife it brings."

—*Gallio's Song.*

The Roman Occupation.—With the advent of the Romans to Egypt there begins another stage in her varied fortunes. Her former splendour has already been concealed by borrowed robes, and these in their turn have become the worse for wear ; under the Romans her garb is worn to rags and tatters, and Egypt returns to the soil from which she rose, nominally Christian, but at heart pagan of the Pagans, worshipping only the gods of her childhood—sunshine, earth, and water.

The history of Egypt itself in Roman times is the history of its agriculture. The country was a machine for producing corn. In the early part of the Roman occupation this materialistic occupation gave her some power, since the Granary of the Roman Empire had only to cut off supplies in order to starve Rome into submission. Even this power waned, as other sources of supply developed along the African coastline, and by the time of the Arab invasion the country was in a state of anarchy.

Agriculture and Religion.

The history of the books of this period is not a history of Egypt, but of Alexandria, and it is of the saddest, being mainly an endless succession of religious riots and revolts. Paganism and Christianity struggled and massacred till Christianity was securely established, when Athanasian and Arian turned on one another ; state orthodoxy trampled on heterodoxy, and the philosophers of Alexandria fled to Persia

for space to think. The Roman Empire was torn by fanatical insistence on dogmatic interpretations of the mere letter of the law, while in the background of Egypt was a fantastic jumble of gods, Egyptian, Greek, and Roman, personal and mythological, whose influence can be traced to the present day in modern formal religions; for "when the words are said, and the new talk is ended, to Shiv men return at the last."

The relation of Egypt to Rome was that of a personal domain of the Emperor, under the autocratic rule of a Prefect, who was effectively a Viceroy and responsible to the Emperor alone. So long as Egypt had the power to starve Rome, it was essential that the local government should have the power to deal instantly with any trouble, not delaying for instructions while the trouble augmented. Moreover, when once in a state of general revolt, Egypt would be no easy victim to subdue; there was only one large harbour on the coast, and the desert guarded either flank. The activities of the globe-trotting M.P. were anticipated and forestalled by the Roman Emperor, who decreed that no Senator of Rome could enter Egypt without special and direct permission. The machinery of administration was as complete as Rome always made it, the high officials being themselves Roman, the intermediate officials indiscriminately Roman, Greek, or Egyptian, while the village elders and scribes at the foot of the administrative ladder were purely native. The domains of the Ptolemies were administered separately, just as the State Domains of Ismail Pasha were handled after the British occupation. The towns were controlled by their own municipal senates, and the whole organisation shows how much we owe at the present day to the Romans in the design of our administative machinery. It does, indeed, tempt one sometimes to wonder whether we in Europe have not continued our debt for too long.

Cautious Administration.

The economic state of the country began rather badly,

THE FIRST PLOUGHING OF RECLAIMED DESERT

having deteriorated under the later Ptolemies, and with the removal of all their portable property to Rome, but a sound administration and a reorganised irrigation system, soon produced a steady improvement. The usual sequence brought about deterioration, loss of land from cultivation, poverty and anarchy, at the end of the Roman period.

The Roman rule began with Augustus as Emperor, and Cornelius Gallus as first Prefect, in the year 30 B.C. Soldiers were employed to clear the irrigation canals of their Ptolemaic silt, and it is recorded that a 12-cubit flood watered as much land in consequence as a 14-cubit flood had previously done. Expeditions were led against Arabia and Ethiopia, under the delusion that these countries were the actual providers of those Indian goods which reached Rome from them. The Jews of Alexandria, who had suffered under the Ptolemies, were raised to equal privileges with the Greeks. There were, and had been riots between the Greeks and Jews of the capital, and they continued to riot at intervals, especially in the reign of Nero (A.D. 54-68,) when a Jewish expedition which had attempted to recover Palestine from the Romans returned dejectedly.

Trade.

A hundred years of prosperity followed the reign of Nero, consequent on the improvements in the irrigation system, and on the discovery of the Indian origin of the Arabian trade. The latter discovery led to Roman exploitation of India by the direct sea route, instead of following the Asiatic coast, the nature of the monsoon winds having been realised, and Egypt profited as middleman. Vespasian was actually proclaimed Emperor in Egypt by the two legions sent there in Nero's reign, and from there he afterwards besieged and captured Jerusalem, thus terminating the Jewish independence. The advantages of belonging to a large empire were illustrated in the time of Trajan, when a famine was averted by the return of store-ships from Rome to Alexandria, bearing corn which had previously been exported. A serious Jewish revolt,

Revolts.

spreading from Palestine to Cyrenaica, led incidentally to the building of Bab-el-On, or Babylon, the massive Roman fort of Old Cairo, which also served to guard the head-works of a new canal leading to the Red Sea. Another revolt in the time of Marcus Aurelius (A.D. 161-180) was entirely novel, inasmuch as it took place amongst the Egyptians themselves; the effects on agriculture were disastrous, and hard times for farmers followed it. The rebels bound themselves by an oath, sworn at a notable ceremony in which a piece of the flesh of a Roman soldier was eaten by each new adherent as a proof of his sincerity; the armour of the soldiers, carried in the climate of Egypt, must have made the meal a tough one!

This revolt probably accelerated the decline of Egypt, for it came at a time when the supplies of corn from other countries were augmenting, and Egypt could no longer threaten Rome with starvation. This decline is shown plainly in the action of Alexander Severus (A.D. 222-238), who banished the leader of a mutiny in the Praetorian Guards to Egypt, as Prefect, till he could be disposed of quietly. Egypt had thus become a place where a rebel could do but little mischief.

Decline.

Alexandria suffered heavily in the reigns of Decius and Aemilianus, first from a massacre of those Christians who would not consent to do sacrifice to the Roman gods, and then for raising up Aemilianus as an emperor; the whole city was ruined, and then was swept by pestilence. Following this there came the first Arab invasion of Egypt, on the part of Zenobia, princess of Palmyra, in co-operation with the Blemmyes from the south; they occupied all Egypt except Alexandria, and even a part of that city, till they were expelled by Aurelian (A.D. 270-275); his successor Probus gradually recovered Upper Egypt also.

Up to the time of Diocletian the country went from bad to worse. Land went out of cultivation, but the same total taxation had to be made up by the remainder. The farmers who had thrown up the struggle took to brigandage. Wages

were rising, but the coinage had depreciated so much that taxes were ordered to be paid in kind, and the large landowners were thus hit from both sides.

When Diocletian (A.D. 284-305) became Emperor, matters improved. He established Assuan as the southern frontier against the Blemmyes, but Alexandria suffered heavily. For following the revolt of a Roman officer it was sacked by the Emperor in person. The policy of Rome in this reign was to augment the religious influence of the Emperor, since military power had been no safeguard against assassination; in pursuance of this the Christians were hounded down mercilessly until the time of Constantine, who made Christianity the State Religion of Rome.

Christianity.

But this scarcely improved matters, for the controversy between Athanasius and Arius on the relation between the Father and the Son was nearly as deadly as the external persecution had been, and affected the course of Egypt's history. Constantine acted as arbitrator, pleasing neither party, after summoning the Council of Nicaea to formulate a creed, and the distinction between Church and State began to be obliterated. His relations with Alexandria were already strained, and thus when he transferred his capital to the Eastern Empire it came about that he disregarded the claims of Alexandria as the principal Greek city, and used Byzantium or Constantinople instead.

The Byzantine Occupation.—Alexandria remained in a state of turmoil under Constantine's successor, first Athanasius and then the Arians gaining the upper hand, but both suffered under Julian (A.D. 361-363), who did not support Christianity. Formerly the sects had agreed on at least one point, that all pagan temples were doomed to destruction or conversion whenever possible. The next Emperor was an Athanasian, but his successor Valens (A.D. 364-378) was an Arian. Since the majority of Egyptian Christians were Athanasians, Valens was not popular, and his unpopularity

was intensified when he abolished the exemption of monks from military service; this was not a mere policy of pin-pricks, but a State necessity, since whole districts were now under monastic vows, or even whole provinces, such as the Fayoum. The state of the country was becoming pitiful; the Indian trade had been lost again to Arabia, and internal trade was carried on by barter.

Under the Emperor Theodosius (A.D. 378-395) the whole empire was decreed Christian, with the result that furious fights took place in Alexandria, whose Patriarch was henceforth of necessity an important person in the government, and could use Roman soldiers to destroy the monasteries of his theological opponents. This power was not neglected, and in the next reign, while Cyril was Patriarch of Alexandria, the Jewish quarter was sacked by a mob of monks and vagabonds, against whom the Prefect could make no effectual interference; the philosophers also suffered, and Hypatia was one of the victims of this riot. The relations between the Church and the government were distinctly strained; the council of Chalcedon excommunicated the patriarch, sending orthodox bishops to replace him, but Alexandria had to be sacked again before this replacement could be effected, and even then the new-comer was murdered as soon as the army left. These squabbles continued till the reign of Zeno, ending just in time to provide a united front for the holding of Alexandria against a Persian invasion. Meanwhile most of the wealth and power of the land had passed into the hands of the monks, who had become the principal land-holders, and the expulsion of the Jews from Alexandria had ruined the city through the loss of its merchant class, on whom its prosperity depended.

Sects and Squabbles.

This preponderating influence of the monks was reduced by the action of Justinian (A.D. 527-565) who made the orthodox Patriarch take the office of Prefect as well. In the first instance this gave the patriarch power to massacre the

mob which stoned him, but in the long run it brought all the temporal power of the church into the hands of the State.

State Religion.

The monks were employed for military purposes, and their monasteries as forts. Steps were taken to root out paganism; the philosophers of Alexandria fled, and the temple of Isis at Philae, which had long been venerated by the Blemmyes of the south, was destroyed, whereupon the Blemmyes raided Upper Egypt, finding nothing more therein which was worthy of their respect. Under Tiberius II the policy of Constantinople was of the weakest, the Persians were driving crowds of refugees before them from Syria and Palestine into Alexandria, which was already suffering from famine, and when the Persians again entered Egypt there was no resistance.

With their entry the Roman period practically ends. The Persians had long been in contact with Egypt, and their invading troops consisted mainly of Syrians and Arabs, of whom there were many living in Egypt already. After ten years' rule the Arabs revolted to follow the crescent of Mohammed, and Rome expelled the remainder of the Persian forces, only to be threatened by the advance of the Islamic armies.

Rise of Islam.

The followers of the new Prophet were at first bought off, but when payments failed they entered Egypt under 'Amr-ibn-el-'Asi, 3,000 strong. Pelusium was captured, the Roman Prefect was defeated near modern Cairo, the fortress of Babylon was blockaded, and Middle Egypt and the Fayoum were overrun by them. The remainder of the Romans were driven into the Delta, and many of the Christian Egyptians, or Copts, made common cause with the Mohammedans.

Constantinus II (A.D. 641) paid tribute to 'Amr, and waited. Under his successor Alexandria was besieged by the Moslems, and the Alexandrians found nothing better to do than to

object to their own Emperor because he was the offspring of an uncanonical marriage! Ultimately peace was concluded, the Romans agreeing to evacuate Egypt within a year. This evacuation was duly carried out by Theodorus, the last Prefect, under Constans II, in the year A.D. 642.

The Last Squabble.

It was time for Egypt to try a change of rulers. The last half-century had been one of poverty-stricken apathy for the country people, from which not even religious controversy could rouse them.

The Arab Conquest.—From the conquest of Egypt by 'Amr until the present day, Egypt has been under Mohammedan rule or influence, for the British occupation wisely abstained from any interference with religion, and to this day the British officials in the Egyptian Government continue work on Sundays and keep Friday as the holiday of the week. In view of the widespread belief among Christians that the religion of Islam was spread solely by the sword, the real facts of its introduction into Egypt may be observed with profit, since Egypt was then a Christian country.

'Amr treated the Coptic Christians with goodwill from the beginning, pointing out to them that the Prophet was traditionally descended from Ishmael, son of Hagar, and therefore was of the seed of Abraham like themselves. They were given a choice, but the choice was not one between Islam or death; all that they had to decide upon was whether they would embrace Islam or pay a poll-tax. Even this poll-tax was not oppressive; only able-bodied males were subject to it, and the amount paid by such was about £1 per annum, subject to reduction if the Nile flood was deficient. The terms of the amnesty declared by 'Amr were "to themselves, their religion, their goods, their churches and *crosses*, their lands and waters." There could scarcely have been more tolerant treatment had the invaders been agnostics, whereas they were the founders of a new religion. During the governorship of 'Amr this

Religious Toleration.

toleration continued, taxation was lighter than it had been under the Romans, and proselytising was so little enforced by subsequent governors that nearly a century later we still find 5,000,000 Christians in Egypt, out of six to eight millions total population. Atrocities are said to have been perpetrated in the Delta during the advance on Alexandria, but the subjugation of the latter place was effected quietly; the story that the Arabs destroyed the famous Library of Alexandria seems to have no real basis in history, being first reported 600 years afterwards.

After the removal of the Romans the country was rapidly reorganised, the canals were placed under the control of a special irrigation department, and the existing system of decentralised government was taken over with very little alteration, to last till the present day. The Arab soldiery spread through the country on their administrative duties, and many intermarried with the natives, though this was discouraged by the Caliph Omar, since it affected the mobility of his forces.

The position of 'Amr and his successors was that of governors under the Caliphs, who were the chiefs of the Mohammedan Empire, both civil and religious. The Caliphate itself has a complex history, of which we need only note the following facts. The first four Caliphs ruled at Medina, the fourth being 'Ali, son-in-law of the Prophet, first convert to Islam, and father of the Prophet's only male descendants. No definite injunctions as to the course of the succession had been left by the Prophet, and fierce factions arose, 'Ali being murdered, and also his son Hoseyn. The caliphate then passed to the Omayyads, who resided at Damascus, and later still to the Abbassid Caliphs of Baghdad. These all represented the orthodox or Sunni faith, but their power was seriously impaired for many years by the Fatimid Caliphs of Cairo, who were schismatics, following the Shi'a faith. Ultimately the Sultans of Turkey became

The Caliphs.

Caliphs, by bequest from the last of the later Abbassid Caliphs of Cairo.

'Amr served at first under Omar, the third Caliph, but his light taxation led to dissatisfaction at headquarters, and he was removed, after having repulsed a Roman invasion. His successor gathered more money, thereby causing revolts, which led to the return of 'Amr under the Omayyad Caliphs, whom he had supported, and in reward he was given all the revenues of Egypt for himself. His career ended prosperously in Egypt, which he had first entered by exercising the Nelson touch, omitting to open a letter of recall until he had crossed the frontier.

Administration.

Subsequent governors were only appointed for short spells of office, and the experiences of the Egyptians varied with their personality. As a rule the Copts were not ill-treated, though they naturally suffered most when suffering was in the air. Even then the question was usually one of vexatious restrictions, rather than active persecution. Their craftsmanship and clerical skill was too valuable to their masters.

When the Abbassid Caliphs of Baghdad came to power in A.D. 750 they easily took possession of Egypt. Most of the trouble which they encountered in Egypt was due to schismatic Moslems, though a big revolt of Copts starting at Sakha in A.D. 767 disturbed the Delta for several years. After A.D. 856 the governors appointed to Egypt were no longer Arabs, but Turks, to whom most of the architectural beauties of modern Cairo are due.

The site of Old Cairo was chosen for the capital by 'Amr and Omar, in preference to Alexandria, as a natural consequence of the southerly origin of the Arabs. The sea was not their element, and Alexandria was liable to be isolated from the south at each annual flood of the Nile. A permanent military encampment called Fostat was therefore founded near the Roman fortress of Bab-el-On, not far north of old Memphis, capital of the Old

Growth of Cairo.

Kingdom of Ancient Egypt, and this camp grew into a city. Under the Abbassid Caliphs this city was enlarged by the addition of a military suburb to the north, which became the official capital, under the name of El Askar. A further extension took place as a new city, called El Katai, under Ibn Tulun in A.D. 870, only to be destroyed in A.D. 905. Lastly, the city of El Kahira, "The Victorious," or Cairo, was founded for the reception of the first Fatimid Caliph on his arrival in Egypt in A.D. 969, on a site which covers the modern "bazaars" of Cairo. The citadel was added later by Saladin. The history of Cairo is thus largely the history of Mediaeval Egypt, though when Harun-el-Raschid visited its streets the glories of El Katai and El Kahira had yet to be founded. The reader who wishes to find the "Thousand and One Nights" in sober history should consult with Mr. Lane Poole.

The Memluks.

We now come to the rise of the Memluk governors and of Ibn Tulun, the next great name in Egypt after 'Amr. When the Arabs subdued the Turks on the Oxus, they thus obtained white slaves who were prized highly, and were usually freed when they had rendered valuable service to the Caliph or his Emirs. Ultimately this class of "Memluks"—for they continued to be known by the slave designation—acquired education, and entire control of the Caliph's palace, together with consequent power outside it as governors of provinces. One of these men had a son, Ahmad-ibn-Tulun, who had studied at Baghdad and Tarsus, and upon his stepfather's appointment to the governorship of Egypt, was sent there at the age of 33 to represent him in A.D. 868. The treasurer of the Egyptian administration usually had immense power, and the one whom Ibn Tulun found in possession was no exception; the new governor not only departed from tradition by refusing the treasurer's bribe, but also took away his escort of splendidly appointed guards. When Ibn Tulun's deputy-governorship ended with his stepfather's term of nominal office, he was retained by the next governor, his father-in-law. With this

long duration of his functions, and his natural ability, he rose to kingly power and wealth, establishing a dominion in defiance of the Caliphate from the Euphrates to Barka on the Mediterranean, even attempting to take possession of the Sacred City of Mecca. He was the first Moslem to revive the power of Egypt, and he left his mark on the capital in the mosque which bears his name. The rest of the suburb of El Katai which he built was destroyed by fire. His character appears to have hardened with prosperity, for when each doctor failed to cure him as he lay dying of dysentry, he took off their heads in rapid succession. The empire passed to his son.

The wealth and extravagance of the family was now colossal. It was about the period when Alfred was founding the English Kingdom, and the son of Ibn Tulun was sleeping on a bed moored by silken cords in a lake of quicksilver, with a tame lion on guard. His daughter married the Caliph himself, and a palace was built for her reception each night on her way from Cairo to Baghdad, while her trousseau included such items as 4,000 jewelled girdles. The result may be foreseen; the country became utterly disorganised, and the treasury empty; the Caliph sent an army which sacked El Katai, and remained in Egypt without effective leaders, bullying the treasurer for extra pay. A mere adventurer—Mohammed el Khalangi—seized and held Egypt for eight months in defiance of the Caliph. The rising power of the Shi'a sect in the west of Africa attempted some invasions, though these were repulsed for a while, but between the soldiery and the rival governors, earthquakes and meteoric portents, the country was at its wits' end.

Autocracy.

The east in general, and Egypt in particular, will never be impressed by democratic control. More than one man saying the same thing suggests collusion to her, and stimulates impish desire to make them say different things. It is sufficient that one man shall say something firmly and clearly. Therefore, when the Caliph sent a strong man called El Ikshid, already

governor of Syria, to Egypt in A.D. 935, the country sprang smartly to attention, and there was not a single disturbance during the eleven years of his control. He was one of the best governors Egypt has had, and it is regrettable that none of his buildings remain to perpetuate his name in Cairo. Besides Syria and Egypt, he governed Mecca and Medina, and was within an ace of establishing the Caliph el Muttaki with him as a refugee, which might have altered the whole history of the Levant, the Balkans, and Turkey, and thus of Europe.

The succession was confirmed to his sons, but they never came to power, being kept in tutelage by their tutor, a jolly black eunuch named Kafur, who maintained order through a succession of earthquakes, drought, fires, and Nubian invasions. Within a year of his death the country was again squabbling, and the Fatimid Caliph saw his chance at last.

The Fatimid Caliphate.—By this time the inhabitants were mostly Mohammedans, and their irrigation and agriculture took care of itself, revenue being the object for which the country was governed. Such public works as had been erected were confined to the capital, where the foundations of its reputation for learning were being laid. The best of the governors had been little better than conventional bureaucrats, not planning long-sightedly to meet problems of the future, but dealing only with the routine of the day. The new rulers revivified the country for a while.

The heretical Fatimid Caliphate had been established in Barbary through the activities of missionaries of the Shi'a sect, in A.D. 910. The first three holders of the title were appropriately barbarous, and their ships were notorious as the Barbary Corsairs of the Mediterranean. The fourth of these Shi'a Caliphs was an educated man and a statesman, by name El Mo'izz, who held peaceful sway from the Atlantic to the desert frontier of Egypt, and laid his plans to annex that rich country also. He prepared roads and rest-houses across the desert to his goal, and when Kafur's reign had ended he launched

Conquest.

a force of 100,000 men, thoroughly equipped under the leadership of G'awhar, against the distracted valley of the Nile. Within six months G'awhar was in Fostat; he immediately proceeded to lay the foundations of a city for the new Caliph, at El Kahira, in A.D. 969 The famine and plague lasted two years longer, but the country took it philosophically, helped by relief ships which El Mo'izz sent. Syria was conquered, and even the Holy Cities acknowledged his supremacy. In A.D. 973, El Mo'izz entered his new capital in peace, finding a magnificent city ready for him; although faction fights took place occasionally between his followers and the orthodox Sunnis, the validity of his position was generally accepted.

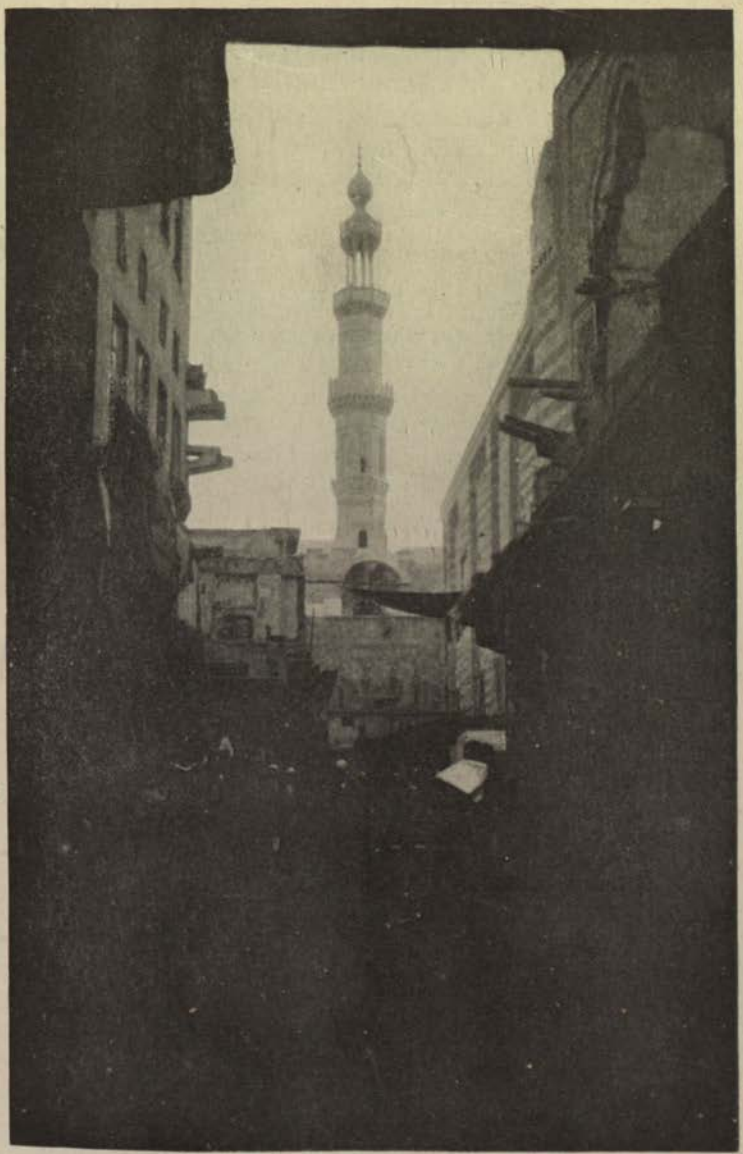
Prosperity.

There followed an economic revival. The arts and crafts flourished, aided by the fact that the Shi'a faith permitted the representation of living things, which that of the Sunni forbids. Most of the towns of Egypt became famous for some special production, textile or otherwise, and agriculture also flourished. Only the beginning of this development took place under El Mo'izz himself, for he died two years after his arrival.

His son El 'Aziz was a worthy successor, displaying remarkable tolerance to the Christians and Jews, who were placed in high official positions, to the frequent annoyance of the Moslems. Free discussion between divines of the two religions was encouraged. Many important architectural and engineering works were carried out by him, such as canals, docks, and bridges. His army, as throughout the Fatimid rule, was mercenary, consisting of Berber, Turk, and Sudani troops.

Reign of Terror.

He was succeeded in A.D. 996 by El Hakim, his son by a Christian wife. This new Caliph is one of the terrible figures of history, a creepy maniac, with a ghoulish love of the dark. To quote Mr. Lane Poole, "he may have meant well according to his lights, but his lights were strangely prismatic." Women



SUMMER SUN AND SHADE

were forbidden to move outside the walls or upon the roof of their houses, and no woman was allowed to possess boots for outdoor wear; no doubt the fair ones of Cairo needed a firm hand, but this boot decree savours of modern legislation for making a nation sober by Act of Parliament. He murdered his viziers "with scrupulous impartiality"; prowled the city at night on a grey donkey; proclaimed himself divine—incidentally thus founding the Druses of Lebanon, who still await his re-incarnation—and his rabid cruelty ordered the most ghastly massacres of his subjects. He finally vanished in the desert one night in A.D. 1021, only his maimed donkey and dagger-torn coat being ever found.

This quarter-century reign of terror started the decline of the Fatimids, even had not Hakim's son followed in the footsteps of his father. The viziers were money-grubbers, and the empire of El Mo'izz was gradually lost. The reign of Mutansir (A.D. 1036-1094) was marked by an awful famine, which began in the year of our Norman Conquest, and lasted for seven years. Human flesh was sold in the markets of Fustat, and from the windows of its tall houses, which were sometimes over ten storeys high, the inhabitants angled with hooks for passers-by in the narrow streets below. The influence of the Turkish officers became oppressive, and they plundered and bullied the country and the Caliph, until they were abolished in a single night, literally, by troops sent from Syria. The rest of Mutansir's reign, the longest in Moslem history, was peaceful; among its modern survivors are the great Gates of Cairo.

Famine in the Land.

Finally a child-Caliph lost his throne to the uncle of Saladin, who is famous in our literature as the knightly antagonist of the Crusaders, and the dynasty of the Fatimid Caliphs was at an end.

Saladin, and the Ayyubid Dynasty.—The First Crusade in 1096 attacked Palestine at a most opportune time, which largely accounts for its success as compared with the later

Crusades. Syria had been taken from the Fatimids of Cairo by the Selguk Turkmans, who had previously subdued Persia.

The First Crusade.

After the death of their leaders, the Selguks fell back, and it was not until much later that other Turkmans took their place. In this interval the Crusaders drove home their attack, which culminated in the fall of Tyre in A.D. 1124. Some miscellaneous fighting took place between the Christian knights and Egypt, which was invaded by Baldwin the King of Jerusalem in A.D. 1117, and again by his successor Almaric in A.D. 1163. The latter invasion was checked by flooding the eastern Delta after the Fatimid troops had been defeated at Bilbeis; Shawar, the Arab governor of Upper Egypt, then allied himself with the new advance of the Turkmans in order to hold Egypt for his master, the child-Caliph.

These Turkmans were led by Shirkuh, a jolly soldier, on whose staff was his nephew Saladin. Shawar was apparently

Diplomacy.

repentant of his alliance, once the Crusaders had been checked, and transferred it to Almaric, thus getting rid of Shirkuh. Ultimately the orthodox Caliph of Baghdad authorised his follower Shirkuh to invade Egypt again and to occupy it. Almaric was known to have similar intentions on behalf of the Christian Knights of the Crusades, and both forces raced to Egypt, arriving simultaneously, the Crusaders at Fustat, and the Turkmans on the opposite bank of the Nile at Giza. An interview took place between the representatives of the Crusaders and the young Caliph, which has preserved for us an account of the pomp and state of his court as seen by Western eyes. Ultimately battle was joined at Minia in Upper Egypt, and although Shirkuh was victorious over the Crusaders, the troops he had brought as his flying column were not strong enough to follow up their advantage. Saladin was given his first command in holding Alexandria for Shirkuh, and an indecisive peace was arranged.

Subsequently Almaric attacked his former ally, the Fatimid

Caliph, and Shawar went for help to Baghdad, meanwhile burning the city of Fustat in order to prevent the Crusaders from occupying it. Shirkuh arrived again from Baghdad, out-generalled Almaric without a battle, and the end of this tangled three-fold skein was reached when Shawar tried some more trickery, only to be executed by Shirkuh with the Caliph's approval.

Shirkuh was made commander-in-chief of Egypt, but died two months later, to be succeeded by his nephew Saladin. The anomalous situation of an orthodox general acting for a heretic monarch was cleared up after two years by the deposition of the last of the Fatimid Caliphs, in A.D. 1171, from a throne upon which they had remained by sheer inertia for a century past.

The dynasty of Saladin and his successors, the Ayyubids, is a refreshing contrast to other parts of our story. Instead of dragging a weary length to incapacity and extinction, it sustained the tradition of its founder to the end, when the direct line of the Ayyubids became extinct; even then a woman rose to the occasion and held the empire together till its future had been secured. The empire of the Ayyubids was practically synonymous with the power of Islam, and was its champion against the knights of Christendom. The land of Egypt was prosperous and well-administered, strongly defended against puissant enemies, and its rulers were noble men by any standard, strong and direct, just and clever.

Noblemen.

The fame and ability of Saleh-ed-Din—or Saladin—are such that it is hard to imagine him as a modest, unambitious youth, who only joined his uncle's final expedition to Egypt with reluctance, and was appointed his successor in the government of Egypt at the age of 34 because he seemed to be a likely tool for the court party on account of his lack of ambition! This was the man whose very titles thrill with the magic of their sound: El-Mélik en-Nasir Abu-l-Muzaffar,

Saladin.

Saleh-ed-Dunya-wa-d-Din, Yusuf ibn Ayyub. Even their English arrangement is impressive: The King Strong-to-Aid, Honour of the World and the Faith, Conquest-laden; Yusuf, son of Ayyub, Restorer of the Empire of the Caliph.

Succeeding to the post of Commander-in-Chief in Egypt on behalf of the orthodox Caliph, after the death of the last Fatimid, he had many difficulties to face; jealousies within the court, internal reforms, and attacks from without, had all to be dealt with. The first part of his reign was spent in reorganising the State of Egypt and putting her in a strong and sound defensive position. The second part, from A.D. 1174 to 1186, was spent in repeating this work of consolidation, but with an empire which reached to the Persian Gulf, instead of within the narrow bounds of Egypt. Then, having left Cairo for ever in A.D. 1182, he swung against the enemies of his faith the forces which he had created out of chaos, and lived to see his end practically accomplished. By the peace of Ramla, in A.D. 1192, the Crusaders were left with no foothold in the East except the narrow coastal belt from Tyre to Jaffa. Whether his achievement was for the good of the world at large must remain an open question, but one thing is certain—the petty bickerings of the Crusaders will not bear comparison with the solid purpose which Saladin gave to the followers of Mohammed. He died in 1193, "the very type and pattern of Saracen chivalry, severe only in his zeal for the faith," a generous and knightly emperor, a man of personal charm.

The Making of the Sword.

In spite of his short residence in Egypt he left an indelible mark on the country, and tradition has since named many works after him with which he had no concern, such as the ancient feeder canal of Lake Moeris, now called the Bahr Yusuf. The citadel which dominates Cairo was founded by him, but his greatest work was the introduction of the Collegiate Mosque of Persian origin. Formerly the mosque had been primarily a place of worship alone. The new type was

Mosques.

SALADIN'S CITADEL AND CAIRO FROM THE DESERT HILLS

cruciform in ground-plan, with a bay for each of the four orthodox sects of Islam, in which religious and secular instruction was continually given, mostly gratuitously, to all who wished to study.

His brother, El 'Adil Seyf-ed-Din, known in the chronicles of the Crusaders as "the knightly Saphadin," though more robust than Saladin, was a worthy successor.

Saphadin.

His nephews had quarrelled over their succession, so that he finally took charge of his brother's heritage, with Egypt as the centre of administration. He gained powerful support by a trade-treaty with Venice, and it is noteworthy that although Saladin had erred rather on the side of over-stringency in dealing with Christians, the rest of his dynasty, secure in their supremacy, inclined to the cultivation of friendly or at least tolerant relations with the "infidels." Another terrible famine happened in the early part of his reign, when even the graves gave up their dead to satisfy the living. At the end of his time the desultory attacks of the Crusaders crystallised into an assault on Egypt, they having at last realised that Egypt was the pivot of Saracen power. Their assault on Damietta succeeded in A.D. 1218, and grief at the news killed the old Sultan.

His son, El Kamil, took charge of the situation and fought gamely to retrieve Damietta, Exhausted and hopeless, he took the desperate step of offering the Kingdom of Jerusalem to the Crusaders in exchange for this city on the mouth of the Nile. The offer was refused! Some fly must have bitten the Knights of the Cross, for after having thrown away the offer of the very object for which they had been constituted, and having captured Damietta, they attempted to advance on Cairo along the Nile instead of striking through the desert, and delayed for over a year before doing so. Kamil rallied his forces, met the Crusaders at Mansura about fifty miles inland, and then cut the dikes. The heavy mail-clad knights were bogged in the flooded fields, or crowded on the narrow

The Crusaders' Error.

dikes and canal banks, and only the generosity of Kamil saved them from utter annihilation.

Besides being brave, capable, and energetic to the extent of personally inspecting the irrigation system, Kamil was a crafty diplomat. He contracted an alliance with the Emperor Frederick II, giving him Jerusalem in exchange for a guarantee of defence against all enemies. The aim of the Crusaders was thus achieved, but the bargain was by no means one-sided ; the precincts of the mosque of Omar were reserved to the Moslems, this being the most sacred portion of the city to them, though not to the Christians, and a source of instability in his empire was removed.

Under his son Saleh the Crusades were renewed, and this time as a true Holy War, led by the king-saint Louis IX of France. Small contingents of the English accompanied this force, under William Longsword, and the old Crusader mentioned in the beginning of this book was possibly one of the few survivors. Exactly the same mistakes were committed as in the previous attempt, and over the same ground. At the second battle of Mansura, in A.D. 1250, the knights broke the Moslem ranks without waiting for their supports to come up, and in their turn were smashed by a charge of 10,000 Memluk cavalry held in reserve under the command of Beybars. The Crusaders retreated down stream.

The Crusaders' Error Repeated.

Meanwhile Sultan Saleh had died, while his heir Turanshah was in the east of the empire. At this critical juncture a Turkish slave-girl of the harem, named Shegur-ed-Durr (" Spray of Pearls ") managed to conceal the Sultan's death, and issued orders in his name, holding the throne till Mansura was won and the heir had returned.

A Queen in Egypt.

Turanshah proceeded to trap the Crusaders by carrying ships in sections downstream of them on camels, which his command of the land now enabled him to do, but they made a desperate attempt at retreat. In the running fight which

ensued along the banks of the Nile the power of the Crusaders was utterly crushed, and Louis IX was captured. Turanshah turned out to be brutal and unpopular, though fully able, and was murdered. The Moslems nearly got out of hand, but Shegur-ed-Durr again took control, and honourably confirmed the ransom of Louis. With her temporary reign the Ayyubid dynasty ended, to be succeeded by the rule of Memluk Sultans.

The First Memluk Sultans.—Between the days of the Ayyubids and those of Mohammed Ali, the history of Egypt is one of episodes rather than of forces at work. The government was even more foreign than ever to the mass of the people, as regards its aims and objects—when any such existed. The common people had taken a personal pride in the exploits of Saladin, but with the exception of Beybars there are no names of Memluk Sultans which are thus remembered. Had the Memluk Sultans never existed, Egypt would be none the worse, except in the matter of art; in this domain the cities at least owe a debt to the reckless prodigality of these vanished rulers, whose careers have otherwise vanished like a dream.

The Memluks.

The bodyguards of Turkish slaves instituted by the Abbassid Caliphs of Baghdad had been copied in Egypt by Saladin and his successors. The prestige of these highly-trained and perfectly equipped troops became such that even when individuals were actually slaves, and not freed, their slavish title was a term of dignity and not of reproach. The principal corps was known as the Bahri Memluks, from their quarters on the Island of Roda, opposite Cairo; for the next century and more, their colonels were Sultans of Egypt. We distinguish them as the First Memluks, since they were subsequently followed by Circassian Memluks, and these again by more Memluks after Egypt had been incorporated in the Ottoman Empire.

The succession was more or less hereditary amongst the

First Memluk Sultans, with modifications according to the personal power of the Sultan and the loyalty of his bodyguard. The average duration of a reign was only five years, owing to the large number of them who obtained the throne without the power to retain it against the bitter rivalry of their fellows. The wealth of Egypt was therefore diverted from constructional ends to provide affluence and comfort for the adherents of the reigning Sultan, whereby they might be confirmed in their loyalty; the mass of the Egyptians tilled the land and paid the taxes, but had no concern in the uncertain control of the country which these armed foreigners exercised. The faction-fights in Cairo would sometimes rage for a week, while the merchants barricaded the doors of the streets leading into their districts, and prayed for nothing to happen.

Yet these same rulers who lived by the sword, by intrigue, and by extravagance, left the most notable buildings of any Egyptian era since the days of Thebes, and under their prodigal patronage the Saracenic art reached its zenith. Those who would realise what life was like in those days will find it in the "Thousand and One Nights," which dates from this period.

The career of the First Memluks began with the election of Shegur-ed-Durr as their Queen, she having borne a son to the dead Sultan Saleh. The honour was unprecedented, and the distinction of having ruled a Moslem Empire is shared by two women only, Shegur-ed-Durr and Victoria. It was altogether too unprecedented for the Caliph at Baghdad, who hinted that he disapproved, and the Memluks therefore elected Aybek, their commander-in-chief, to marry her and regularise the situation. Troubles followed with the Syrian branch of the Ayyubid family, but without any permanent effect. The chief event of Aybek's reign was a revolt of the Arabs from Upper Egypt, which was sternly repressed, thus beginning the degradation of the Bedouin to their present condition. His death was due to harem intrigue, Shegur-ed-Durr resenting

Queens of Islam.

his taking a new wife, and murdering him for doing so. She in her turn was battered to death by the slaves of the rival widow, having first pounded her jewels to dust in a mortar so that no other woman might wear them, and her body was thrown to the dogs. "Her end was like Jezebel's, yet she had saved Egypt."

The next conspicuous Sultan was Beybars, the Bendocquebar of Marco Polo, who established the Memluk Sultanate so firmly that it lasted till the Ottoman Conquest in A.D. 1538. He reigned from A.D. 1260 to 1277, aiming to be a second Saladin, and to establish the Abbassid Caliphate at Cairo. The latter purpose was effected; Cairo became the technical centre of Islam, gaining an influence which it has never since lost entirely, even after the transfer of the Caliphate. He defeated the Crusaders severely, and invaded the Sudan to the Fourth Cataract. His internal control of Egypt was strong and beneficial; roads and bridges, old and new canals, fortifications, the fleet and the army, were all handled effectively. One of his reforms was the prohibition of alcohol, in spite of a heavy loss to the revenue from its taxation. His imitation of Saladin was not otherwise effective, for he had plenty of personal vices, with a reputation for utter perfidy and boastfulness, which counterweighed his extraordinary bravery and daring.

The Caliphate at Cairo.

Beybar's weakling sons were succeeded by Sultan Kalaun, who founded a dynasty which lasted for a hundred years. His rule was similar to that of Beybars, but he had the advantage of his predecessor in personal character. The Maristan in Cairo—tomb, mosque, and hospital combined—was founded by him in the fulfilment of a vow. The invading Mongols from the Far East, who had been held back by Beybars, again advanced, but Kalaun again repulsed them in an extraordinary battle in Syria; the right wing of each force was utterly routed, and the Sultan in the centre with his bodyguard had the

Repulse of the Mongols.

weird experience of watching the two halves of his army bolt in opposite directions.

Under his son Khalil the Crusaders were finally expelled from Palestine by the sack of Acre, in A.D. 1292.

The rule of Nasir, still of the house of Kalaun, was cut up into three separate reigns, a good illustration of the uncertainty of the times. A massacre of the revolting Bedouin, sumptuary laws against the Jews and Christians, and the cutting of a canal from Alexandria to the Nile at Fua, were the chief internal episodes of his reign. The normal frontier was even longer than in Saladin's time: from the Syrian desert, the Euphrates, and the Pyramus, by Tripoli, Assuan, and Suakim. After his death in 1341 a number of weak successors followed, who were ultimately displaced by the Circassian Memluks in 1382.

The Circassian Memluk Sultans.—Apart from the difference of nationality, and the absence of any stabilizing convention of inheritance, the rule of the Circassian Memluks was marked by the same features as that of their predecessors. They were merely chiefs among their equals, and while several were noteworthy, the rest were nonentities. Sultan Barkuk, who left a mosque which is still one of the show-buildings of Cairo, was one of the noteworthy ones, and he had a trick of dealing with conspirators by nailing them to the saddle of a camel, parading them through the streets till they died.

Peculiar Habits.

The licence of the troops was unbridled; no woman dare appear in the streets, and revolts were horribly suppressed; but they were most efficient soldiery, not only keeping Egypt to themselves in spite of their organisation, but braving and stemming the advance of Timur's hordes from Asia.

For a long time past the rulers of Egypt had enjoyed friendly relations with the Othmanlis, often allied with them, but in the reign of Kait Bey a significant lack of politeness was noticeable in the official correspondence he received. War broke out, but peace followed for a space. Meanwhile

Kait Bey reigned longer than any other Circassian Sultan, and built the loveliest mosque of all, which was no mean distinction.

In the reign of El Ghuri, who came to the throne in 1501 at the age of 60, trouble was brewing fast. The Portuguese were diverting the Indian trade from Egypt to their new Cape route round Africa, and refused to be beaten by force. The sea-power of the Western Nations of Europe had thus begun to exercise the influence on Egypt's fortunes which it still exerts. Lastly, Selim I of Turkey came to the Ottoman throne and began to mass his troops near the Egyptian frontier, ostensibly for an attack on Persia. The vigorous old Sultan, El Ghuri, went out to meet him, but was utterly defeated and killed at Aleppo in 1516.

Sea-power and the Ottomans.

Selim I advanced to Cairo and entered it on 26th January, 1517. From that day until 18th December, 1914, Egypt was subject to Turkey. The last Abbassid Caliph in Egypt—the Caliphate had been established there by Beybars—was carried off to Constantinople and imprisoned. Ultimately he was released and allowed to return to Cairo, where he died in A.D. 1538, bequeathing his rights and title to the Sultan of Turkey. Whether such a bequest was possible, when made to one who was not of the Prophet's tribe of the Koreish Arabs, is a matter of theological interest; in any case, legally or not, the Caliphate of Islam has since remained at Constantinople.

The Caliphate leaves Egypt.

The Turkish Conquest.—With the conquest of Egypt by Turkey her history becomes even more tedious and still less relevant to Egypt herself. So little of note took place during the 300 years of this *régime*, that no separate history of its times has yet been written. The Memluk rule, as we have seen, was on the down-grade at the time of the Turkish conquest, and its degradation still continued afterwards. Nominally the country

Weak Rule.

was under the control of the Pasha whom the Sublime Porte had appointed; actually the Pasha was usually under the Memluks' thumbs. Being no longer the centre of an empire, nor even the rulers of an independent nation, the Memluks could but feebly parody the splendour of their predecessors. No empire but the Turkish Empire would have continued to tolerate their parochial influence within its borders. On the other hand, indirect government by the soldiery was probably quite as good as direct government by the Pashas would have been.

A few of these later Memluks were men of note, within the bounds of their limited opportunities. Othman Bey, who flourished in the middle of the eighteenth century, was sufficiently powerful to patronise the Pasha, and for many years afterwards the common people dated happenings by the events of his life. Superstition and doctrinal wrangling took the place of learning, and public behaviour was regulated accordingly by most strict decrees; one of these, which forbade smoking in the streets, is reminiscent of undergraduate days! A number of notable mosques were erected, though none can compare with those of the Circassian Memluks, and we owe something to these times for the care which was taken of existing buildings.

Two serious revolts took place against the existing *régime*. The first, headed by one 'Aly Bey, had some measure of success, and Egypt was proclaimed independent in 1768; ultimately the leader was betrayed and killed. The second was that of Mohammed Ali, who founded the late Khedivial Dynasty, and thus brought the British into Egypt.

The French Invasion.

A few years before Mohammed Ali expelled the representative of Turkey, however, Egypt was invaded by Napoleon, and the Memluks, under Murad Bey, were defeated at the battle of Embaba (or "The Pyramids"), in 1798. The *savants* whom he had brought with him conducted a rapid but valuable survey of all the resources of the country, published in the *Description*

de l'Egypte. This episode was significant, and typical of the nation which, when cut off from the outer world by a hedge of steel, dug up its cellar-floors to make saltpetre for its guns. It indicated a possible new method of dealing with an ancient country. The French occupation only lasted three years, and was not too successful in its relations with the Egyptians. After the fleet had been destroyed by Nelson in Abukir Bay (A.D. 1798), and the army defeated at Alexandria (A.D. 1801), the authority of the Porte was restored, only to be abrogated by the act of Mohammed Ali in the year 1806 for a practical independence.

The Khedivial Dynasty.—The reader will probably have noticed that in spite of all efforts on the part of the author to the contrary, this historical sketch of the fortunes of Egypt is markedly foreshortened. The reigns of most of the Memluks, devoid of dynastic purpose, however glittering they might be individually, would have passed us without notice of any kind if they had been incorporated in the history of the Old Kingdom of Ancient Egypt instead of happening within the limits of our own little history. This tendency to foreshortening must necessarily be augmented as we approach our own day, which we are prone to believe unduly important; in a later chapter we shall see that there is in fact a possibility that a new stage in the history of Egypt is beginning, picking up threads which were dropped ages ago in the chase after empires. For the remainder of this chapter we shall nevertheless do well to remember humbly how we have watched the centuries slipping past us, how dynasty after dynasty has started with fair anticipations, risen to power, and then declined sadly to its extinction; and how, at the end of it all, and through it all, we have only to scratch the veneer to find the same naked humanity sweating in the sun, lifting water, and sowing seed, as when we began.

In due Proportion.

Mohammed Ali was the founder of the Khedivial Dynasty, and also of the new Sultanate. He is one of the remarkable

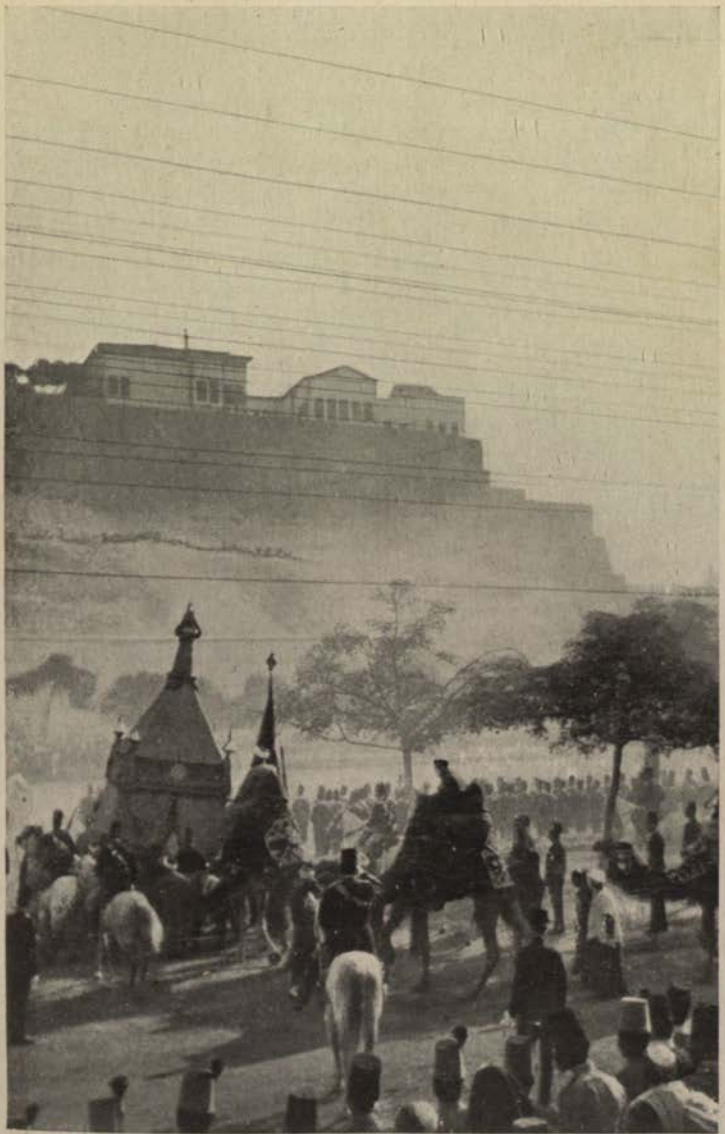
figures of Egyptian history, even without any foreshortening, partly for his own sake, but even more on account of the times in which he lived. In his own person he forms a link between the mediaeval Sultans and the Western civilisation of to-day.

Rise of Mohammed Ali.

His actual career was similar to many of those we have been glancing over already. An Albanian, born at Kavalla in 1769, he volunteered for service as a Bashi-Bazouk against the French in Egypt in 1798, only to be driven into the sea with his companions shortly after landing, for the reinforcements did not arrive until Napoleon had already defeated the Memluks at Embaba. Three years later he returned, this time as an officer in a force co-operating with the British, and helped to drive out the French. Mohammed Ali distinguished himself, and was made captain of the Pasha's guards. Thence he forced his way up, first allied with the Memluks, and then fighting them, till he drove out the Pasha and succeeded him by popular consent, which was officially confirmed by the Porte in 1806. He was already in the same position as many of his predecessors who had started with far better opportunities.

The Porte now tried to break him gently and diplomatically, by a kind invitation to suppress revolts in Arabia, presumably anticipating Memluk revolts in his absence. Something had to be done to protect his flank against the Memluks, and after trying every gradation of treatment, from persuasion upwards, he finally swept them away by a well-planned massacre enacted within the old Citadel. The act was treacherous, bloody, and cruel, but it was essentially an act of self-defence, and by no means exceptional in the Memluk annals; the peculiar feature was its completeness, not one Memluk escaping, in spite of tradition to the contrary. The Arabian revolt was then quelled without risk, and the Pasha, supreme within Egypt, was free to turn his genius to work on less sanguinary employments.

In these he displayed both his strength and his weaknesses.



THE MAHMAL PROCESSION STARTING FROM SALADIN'S CITADEL FOR MECCA

To the former we may assign his energy, administrative abilities, foresight, or rather, imaginative faculty, and adaptability. As weaknesses, we may account his lack of education, recklessness, and hastiness. He founded an unspoken tradition in Egyptian administration, the cult of the amateur. His head was buzzing with projects for the advancement of the country, and almost every one of them was materialised direct into full working order, without wasting time on experimental trials. The result was naturally variegated; he made a marvellous success of a new kind of cotton in an incredibly short time, remodelling the irrigation system to suit it; since cotton was grown to be spun, he rushed into cotton-spinning projects, established mills, and proceeded to handle his new crop; but the dry climate of Egypt, and the impossibility of paying for all the skilled labour required out of the profits, if any, wrecked his new industry at once, and thousands of pounds worth of spinning machinery rusted away. Still, even if he had confined his efforts merely to putting the country in order, as he did—it was his private estate—and clearing the silted canals, he would have been a notable ruler. As it was, he did all this, and very much more, for he brought Western civilisation into Egypt. It was a dangerous experiment, and even to this day it produces sad and ludicrous and amazing results—not always by the fault of the Egyptians—but it started a new line of development, and gave food for thought. The spectacle of an Oriental despot introducing compulsory education at the point of the bayonet may seem strange, but it is essentially sound; education is a national asset, therefore any means to advance it are advisable, and the simpler those means, the easier they are to administrate; the only sufferer is a small boy here and there who has received a slight flesh wound in a suitable place, which he probably deserved later, if not then.

West and East.

The preceding comment is a deliberate caricature, intended to emphasise the extraordinary situation in which Mahommed

Ali was placed, and the equally extraordinary cogency of his internal administration. In his external policy he was similarly the victim and master of circumstances. This upstart Pasha was a nuisance to the Chancelleries of Europe; Turkey alone was bad enough, and he was a most decided nuisance to Turkey. Some such interpretation was all he received at first, before the essential strength and imaginativeness of the man were realised and a reluctant respect was accorded him. The Turks used him and his fleet to help suppress the Greek Revolution in 1822, and his fleet was destroyed at Navarino. He built a new fleet.

Ten years later he was at last ready to attempt his own independence, and his eldest son Ibrahim, the Prince Rupert of the Dynasty, conquered Syria and much of Asia Minor also. When the fate of Constantinople appeared doubtful, England stepped in to save it. Diplomacy alternated with fighting for some years, until Lord Palmerston compelled him to retract his forces into Egypt, receiving in exchange the hereditary rule of Egypt from the Porte in 1841. Probably it was well for Egypt that this was done, because the innovations which he had introduced to the Nile valley were sufficient to occupy the undivided attention, not of one man only, but of several dynasties in succession. The same peculiarities which made and also marred his home policy were not favourable to foreign policy. Syria disapproved of his rule, and his audacious conquest of the Northern Sudan involved him in many troubles, especially over the slave-trade agitation.

The mediaeval city of Cairo suffered in his reign. In his zeal for reform he drove straight streets through it, which survive to this day as eyesores. His last public act was to lay the foundation stone of the Delta Barrage, which fortunately is not built with the stones of the Pyramids, as his successor Abbas I had intended. The overland route to India had been opened a year or two previously, foreshadowing a change in the political geography of the world.

Of Mohammed Ali it may well be said that he had drunk deep of the strong wine of "progress," but the sounder elements of his new policy have shaped the history of Egypt ever since.

It should be obvious that the *régime* initiated and sustained by Mohammed Ali was an unstable one, capable of swinging over to any one of a dozen different positions in attaining its equilibrium under a weaker ruler. During the reigns of his successors most of these possible positions were tried. His grandson Abbas, who succeeded him (A.D. 1849-1854) for a few years, was a reactionary, a recluse, and was murdered. Abbas I was followed by his uncle Said, with strong foreign sympathies and education (A.D. 1854-1863); being more closely in touch with Europe than his father, he inclined the *régime* strongly towards Europeanisation, granting the Suez Canal concession to Ferdinand de Lesseps; otherwise his reign was not important, though it gave its name to Port Said, at the entrance to the canal.

Trial and Error.

The inheritance till now had been through the eldest male of the family, and this brought Ismail, the second son of Ibrahim—the cavalry general—to the throne in 1863. The tendency of the previous reign was confirmed, and Egypt was transferred to Europe from Africa, though perhaps not quite so completely as Ismail believed. His reign ruined Egypt and made a new Egypt; it was a catastrophe in one direction and a godsend to the Egyptian in another. The same weaknesses which had marked Mohammed Ali's career were displayed, though minimised by early education, and the same strength of purpose and vivid faculty of imagination. He was wrecked by contact with European finance and his truly regal disregard of debt. One-fifth of the total area of cultivated land was in his possession; he obtained the title of Khedive from the Porte, with direct succession through the eldest male child; he conquered and explored the Sudan, placing General Gordon in charge—Sir Samuel Baker's

explorations were effected for him—and he completed the Suez Canal.

Thoroughness was still the mark of the family ; the Empress Eugénie opened the Canal, assisted by most of the notabilities of Europe ; Guiseppe Verdi was commissioned to write *Aida* for the gala performance in the Cairo Opera House, which was built in six weeks—therefore it is still standing—and a five-mile embankment and road was made to the Pyramids so that the Empress might drive there in comfort. The country was " opened up." But in the process he raised the debt of Egypt from £10,000,000 to £90,000,000 during twelve years ! This, too, in a country which is full of natural wealth. The great Powers of Europe interfered, and an international control of the finances was instituted. Ismail threw off the control, and was finally deposed through European pressure, to be succeeded by his eldest son, Mohammed Tewfik, in 1879.

Thorough.

Mohammed Tewfik was an entirely different personality from his father, inheriting much from his Egyptian mother. The expensive purchase from the Porte by Ismail of the right to inherit through the eldest male had not been intended for his benefit, but for the expected first-born by another wife. The turn of Fortune's wheel has now gratified Ismail's wish, by bringing that son at last to the throne as the First Sultan of the Protectorate, H.H. Sultan Hussein Pasha Kamel.

The reign of Tewfik began the appalling task of rescuing Egypt from bankruptcy, but scarcely had the reforms been initiated when the Egyptian soldiery, under the leadership of Arabi Pasha, attempted to dominate the situation. The tradition of five centuries of Memluk rule was not yet dead, and no realisation of the new significance of Egypt to Europe brought about by the Suez Canal had yet penetrated to such brains as Arabi's. The idea of governing Egypt for the benefit of the Egyptians until they could govern themselves had already taken root in

The British Occupation.

Europe, and even without such a motive Arabi could not be allowed to endanger the safety of the short cut to the East. England had vacillated, through honourable but impracticable convictions against interference, and when Arabi's revolt had become serious and France had withdrawn, she pulled the chestnuts out of the fire for Europe, bombarded Alexandria, and defeated Arabi at Tel-el-Kebir.

With the best intentions in the world, England had unwillingly occupied Egypt temporarily. But, like the Cairo Opera House, being temporary, the Occupation has endured. Gradually it had been driven home to the minds of statesmen that Egypt must be guarded by the power which holds the seas, so long as sea-power has any meaning. If air-power takes the place of sea-power, Egypt might be her own again, but not otherwise.

Some Anomalies.

From the Occupation, in 1882, till the adhesion of Turkey to Germany in 1915, the position of England in Egypt was like a bad dream. Actually controlling a country which had an independent ruler, who was nominally under the suzerainty of another empire; hampered by international obligations and by the temporary nature of the Occupation; keeping a military garrison and making a native army out of the despised fellaheen; building up the country's finances afresh from nothing, when they could only be built up at all by free expenditure for productive purposes; losing and conquering the Sudan in order to control the head-waters of the Nile 4,000 miles away, on which Egypt depends; pressed on by absolute necessity and held back by impotence; controlling Moslems with Christians, and never working in fewer than three languages at once, the task was impracticable. The mere restoration of prosperity was an ordinary event; we have seen it happening time after time in this history, but it had formerly been effected by rulers in a strong position; England was in the weakest and most anomalous position possible.

Still the work was done, and Egypt has started her new career under her new Sultan and his protectors, financially sound, and with potential reserves which have yet to be developed. One man did this work, while many helped him—the Earl of Cromer; steady, unceasing reconstruction, keeping the *taxes at the minimum* possible, was the secret of his success. In his early work he was loyally helped by Tewfik.

"El Lord."

Tewfik's successor and son, the ex-Khedive Abbas Hilmi, was another reactionary, without the imaginative faculty of the family, and with a zest for money and intrigue which made him a permanent danger to the welfare of his country. In extenuation it is only fair to point out that his position was anomalous, like that of every soul in Egypt, and his practical tutelage, whether diplomatically concealed or not, was galling to any mind. During his reign Lord Cromer retired, to be succeeded by Sir Eldon Gorst, who had already made his name in Egypt. His task was to carry through an impossible and Utopian policy, based on liberal convictions; the task killed him. The pendulum swung to the other extreme with the arrival of Lord Kitchener, who exercised a discreet autocracy. What the results of his policy might have been we shall never know, for only the first impulse of his efforts had been felt when the European War broke out, recalling him to Whitehall.

Changes.

The steadiness of the country under the strain of Turkish intrigue which followed is testimony to the essential soundness of the English administration, and the unsuccessful experiment of Sir Eldon Gorst's *régime* probably contributed to this in no small measure, as an object-lesson. Financially it would have been better for Egypt if the Great War had come a year or two sooner, before her reserves had been locked up in constructional works, but this has only involved minor discomforts. So long as Egypt is taxed to the minimum

Religion, Taxation, and Sea-power.

possible, concurrently with the maximum safe State expenditure on productive works, she will henceforth be easy to govern and reasonably loyal to her protectors, provided only that they hold the dominion of the High Seas, and, the respect of Islam.

PART II

THE NILE

CHAPTER IV

THE LAND OF THE NILE

> " The great river Gihon, well used to the moods of kings, slid between his mile-wide banks towards the sea."—*Little Foxes.*

In centuries gone by there were two writers of repute, who settled the character of Egypt between them. The prophet Ezekiel announced that " a spirit of perversity " had been put into her ; to this day the best-intentioned action on her behalf is liable to produce entirely unexpected results. The excellent Herodotus visited Egypt a few centuries afterwards, and found that most things were there managed in exactly the opposite way from that which prevailed in his native land of Greece, even to intimate details of personal habits, and so he focussed attention on the topsy-turvy features of the country, rather to the detriment of its real peculiarities. Incidentally, Herodotus lost his reputation for veracity, and it is only in recent years that discoveries have shown him to have been a really good observer.

The Land of Paradox.

When one considers what Egypt is, the wonder lies not in her possession of habits and characteristics unlike those of other lands, but rather in the existence of any common features at all. Out of the many countries of the world there is none so entirely peculiar as this one at the mouth of the Nile, in the north-east corner of Africa ; forming the sole point of contact between the continent and Eurasia, and yet

isolating these two great land-masses of the Old World from one another, by virtue of the deserts which surround her.

The total area of modern Egypt, traced by the dotted boundary line on a map, is some 350,000 square miles. Out of this area, 338,000 square miles are barren desert lands, almost useless and uninhabitable except for a few nomads. These deserts serve to isolate Egypt almost as effectually as the sea isolates the British Isles. The whole history and importance of this country, past and present, is crowded into a narrow valley and a fan-shaped Delta; of which not more than 11,000 square miles is capable of permanent inhabitation, less than the area of Ireland. In compensation for this restricted area, her length from north to south is almost indefinite. The political frontier between Egypt and the Sudan is at Wadi Halfa, further from the Mediterranean coast than John o' Groat's house is removed from Land's End, but this frontier is only political. The Egyptian sphere of influence continues up the narrow valley of the Nile as far again, to Khartoum, and beyond that it goes to Abyssinia on the one hand, and to the Great Lakes of Central Africa on the other, which are as far from Khartoum as Khartoum is from Cairo. To obtain some idea of the distances involved we may observe that Alexandria—at the western corner of the Egyptian Delta—is nearly half-way between Charing Cross and the spot where Gordon died, so that to travel up the Nile from its mouth to the Great Lakes is twice as long a journey as from London to Egypt.

Size.

The sphere of influence of Egypt is coincident with the Nile catchment basin, since her whole existence is dependent on the river. The heaviest rainfall in any part of Egypt is only a fifth of that which falls in the driest of our English countries, and it falls during the winter months alone; this trifle of rain is only found along the coast of the Mediterranean. A hundred miles inland, at Cairo, some four or five showers alone are seen,

Sphere of Influence.

NILE BOATS

and in Upper Egypt a shower of rain is a freak of Nature, which the "oldest inhabitant" has rarely experienced. The fact that rain had once fallen at Thebes is recorded by Herodotus as "a most remarkable prodigy." For all practical purposes every drop of water used in Egypt, by man, by animals, or by plants, comes from Abyssinia and Equatorial Africa, even including that which is drawn from the ground by wells. If insufficient water is coming down the Nile, improvements in its channel may have to be effected 2,000 miles beyond the southern political frontier. The politics and administration of the whole gigantic basin of the Nile are thus subordinate to the welfare of this little country. Whether this will always be the case is another matter; the big brother upstream in the Sudan is becoming entitled to consideration, but the Sudan can never be a "white man's country," whereas Egypt is partially so, though it seems to exercise a demoralising effect ultimately. There is an unkind saying, that few Englishmen are any use in Egypt before they have been three years in the country, nor after ten years more.

The rest of the world stands deeply indebted to Egypt and the Egyptians of past times. Civilisation was cradled on the Nile and on the Tigris, and that of the West more particularly on the former river. The eastern Mediterranean was permeated with Egyptian influence, which was carried further afield with the progress of time; the Mycenaean culture which led to the classic age of Greece was much affected thereby, and even Greece itself showed marked signs of this Egyptian influence. In many cases it has happened that Egypt in her prime has given of her arts and crafts to the surrounding world, and in her decadence has received these gifts again, modified and developed in the meanwhile by those who were capable of so doing.

The River Nile which flows through Egypt, passing Cairo at the 30th parallel of north latitude to enter the Delta, is smaller at all times of the year than it was when it left

Berber, some 1,500 miles upstream. Through all this last part of its journey it does not receive a single tributary, but is continually losing water, into the soil and into the air. Once every year it rises in flood, thenceforth diminishing until the next flood-wave comes down the valley. The height to which the flood rises depends on the particular situation of any part of the river, and on the modifications caused by the irrigation engineers, but the natural flood at Cairo begins when the river surface would have sunk to some 17 ft. below the average level of the surrounding country, and it rises up to country-level, or higher, in the space of about a month. Even at the present day, with extensive regulation, the change of water-level at Cairo is about 11 ft.

The Nile Flood.

The regular apparition of this flood is as familiar to the dwellers in the Nile Valley as the bursting of buds in spring-time is to us. In both cases long familiarity has blunted the sense of wonderment, but people of other lands had fresher minds for this marvel, and the " ebb and flow of the Nile " became one of the wonders of the classic world. The presence of great mountains to the south had long been known to the Egyptians, expeditions having been sent to Somaliland even in their remote history, and the interpretation gained general acceptance that this flood was due to the sun, in his journey southwards, melting the snows on these Abyssinian mountains. The interpretation was a natural one for the visitors to Egypt, who were used to the snow-capped winter mountains of Crete, Greece, the Lebanons, and Asia Minor, but it was not correct. The real cause of the flood is far more wonderful ; the time has yet to come when these causes will be known so completely that the volume of the flood in any year can be accurately forecast, but one of the principal controlling causes is measured by the barometric pressure at St. Helena ! The water which flows past Cairo has not merely travelled by river from the heart of Africa ; it has travelled by air also, across the breadth of the Dark Continent from the

South Atlantic, to be precipitated as rain on the mountains of Abyssinia ; the Nile Flood, the Himalayan Snows, and the Monsoons of the Indian Ocean, are all interrelated with one another.

The flood is only half the Nile, however. If there were nothing to follow after the Abyssinian rains were over, the river would be dry before ever it reached Cairo in the summer months, and the land would die of drought. The continued existence of Egypt is due to the double origin of the Nile, which is fed from two different catchment areas, the Great Lakes and Abyssinia. Roughly, the former keep the Nile flowing all the year round, while the latter alone lifts it into flood.

Summer Water.

The inland sea of the Victoria Nyanza escapes over the Ripon Falls on its northern side, just beyond the equator, giving rise to the Victoria Nile, which flows north-west into Albert Nyanza only to emerge again a few miles further along the lake shores as the Bahr-el-Gebel, or River of the Mountain, known in its lower or more tranquil reaches as the White Nile. The northern shore of the Albert Lake is now a part of the territory of the Anglo-Egyptian Sudan, so that the headwaters of the Nile in this direction are practically in Egypt's control at last. After passing Gondokoro, which was the terminus of a regular service of river steamers from Khartoum, the river enters a land of swamps, the "sudd" region, into which also drain all the streams coming east from the watershed of the Congo. Lastly, emerging from the swamps in a shrunken state, the White Nile flows steadily north to be met at Khartoum by the water from Abyssinia. The net result of its journey through sixteen degrees of latitude is to leave it smaller than when it started from Lake Albert, owing to the loss in the Sudd region from evaporation. Its flow throughout the year is fairly uniform ; the Great Lakes are affected to a less extent than Abyssinia by the summer rains, they gather other rains which Abyssinia does not, and

their size in itself acts as a governor. Consequently, the extreme variation in the level of the White Nile below the Sudd only amounts to some 7 ft., even with the flood of the Sobat River added.

On the Abyssinian side the conditions are very different. The mountainous plateau of Abyssinia intercepts the rain-winds from the Atlantic in summer, and is drenched with rain, to the accompaniment of crackling thunderstorms. There are no large basins like the Great Lakes to steady the run-off from the mountains, though Lake Tsana in the centre of the plateau is the source of the Blue Nile, as this half of the Upper Nile is called. Consequently, the river is but scantily fed with water during the spring, but its level may vary several feet in a day when the rains begin. It is a mountain torrent on a grand scale, and not until it is approaching Khartoum does it steady down to a fairly uniform flow. At Roseires, just after it leaves Abyssinia to enter the Sudan, the average change in the depth of water between low-stage and flood is about 27 ft. The rise usually starts in May, and stops again; this false rise is due to separate rains, local in their origin. The true rise of the flood begins a little later, but the month of July sees the most rapid increase. By the beginning of September the water has begun to fall, and the river shrinks steadily till the next flood comes. This annual "spate" of the Blue Nile is the cause of the flood in Egypt, piled as it is upon the top of the slighter rise of the White Nile, which, in its turn, keeps up the supply during the summer.

Flood Water.

The whole of the water which runs off from Abyssinia does not find its way into the Blue Nile. On the western flank the River Sobat is formed, which joins the White Nile soon after the latter leaves the Sudd region, while to the north a number of tributaries collect together to form the Atbara, which joins the united Niles below Khartoum, and is itself the last tributary which the Nile receives. These two rivers behave like

Minor Tributaries.

the Blue Nile, though on a smaller scale. From the Atbara to the sea the Nile is entirely self-sufficient.

As the White and Blue Niles approach one another to meet at Khartoum, they enclose a triangular piece of ground, almost entirely flat, except for a gentle gradient northwards, known as the Gezira, literally the Island, which will before long be developed into a smaller edition of the Delta of Egypt. It receives a certain amount of rain at present, but when it has been given irrigation water it will have a great agricultural future.

As one approaches Khartoum, going north with the river, the rainfall steadily diminishes until at Khartoum itself it only amounts to a few inches annually, and beyond there the country becomes altogether rainless until the Delta of Egypt is reached. Khartoum itself, the stage upon which one of the worst national tragedies was played to its bitter end, lies at the tip of the Gezira triangle between the two rivers. The Blue Nile turns directly west on approaching the town, flowing in a straight reach some four miles long, and entering the White Nile at a right angle. Khartoum itself occupies the centre of the southern side of this reach. A straight road shaded by trees runs along the high south bank, with the Gordon College facing across the road to the river at the east end, and the Governor-General's Palace in the centre. The town itself is laid out on the landward side of this road, centred round Gordon's Statue behind the Palace, with straight wide streets and villa-bungalows standing in gardens. It is a hot and dusty city, but not stuffy; also it is an abiding marvel; most marvellous of all, it has no mosquitos. Any person found keeping a mosquito in Khartoum is subject to a heavy fine, and, in consequence of this and other kindred regulations, it is the healthiest town in Africa. It was not so healthy once; the horrors of the Dervish rule, which was broken in 1898, seem incredible now. That a hundred or so of the British, counting every one in the country, under

The Centre of the Sudan.

Sir Reginald Wingate, should have regenerated the Sudan as they have done in twenty years, is perhaps the finest piece of work which our race has ever accomplished. Khartoum is merely their show-place and convenient government centre, but it is typical of the rest. In Egypt a piece of work is usually condemned to look unfinished; in the poorer Sudan they seem to squeeze out a little reserve effort, to give the final touch which makes a "job" of it.

Over on the west bank of the White Nile, looking west up the last reach of the Blue Nile past Khartoum, stands Omdurman, the old Dervish capital, city of blood and lust. To-day it is the cleanest and neatest native town in Africa, also the largest, and the commercial capital of the Sudan, with a future which has scarcely begun. A city which is the centre of a land as large as Europe (omitting Russia), ranging from saturated rain-forests to arid desert, from tropical jungle to temperate hill-meadows, with possible minerals, and undoubted big game, and of which the crying need is a ten-fold increase of population, is a city to be envied in some ways. For five miles this extraordinary city stretches northward along the western bank of the Niles, which are now fusing into one stream a mile in width, though not yet fused, for the line of junction between their two waters is still visible in mid-channel.

The United Niles.

This is the beginning of The Nile, the cause of Egypt's existence. It is not a very great river in mere width when compared with such a stream as the Mississippi which is continually receiving fresh tributaries, but some idea of its length may be gathered from the timing of the flood-wave. The rate at which water travels down it depends on the state of the flood, being fastest when the flood is high, but even then a fall in the water-level at the Abyssinian frontier on September 13th, 1913, which was shown at Khartoum on September 17th, did not reach the frontier of Egypt till September 26th, and Cairo river-gauge only began to fall on October 5th.

The false rise in the same year, which began on the Abyssinian frontier on April 25th, being only some 3 ft. in height, did not reach the frontier of Egypt till the end of May, nor Cairo before June 20th, nearly two months after.

From Khartoum onwards the river dominates everything, and man exists only by the grace of the Nile. Its course is an alternation of long tranquil reaches with stretches of turbulent water between, where it crosses bands of igneous rock which were forced through the Nubian sandstone in past geological ages. These turbulent stretches, or Cataracts, debar the river from being used habitually for through communication, though they are not impassable. The last of them, or the First Cataract, is at Assuan, and the Second is just inside the Sudan frontier. The intermediate stretch of uninterrupted water from Shellal—the port of Assuan—to Wadi Halfa, the frontier town, is known as the Shellal-Halfa reach, and a regular service of great stern-wheel steamers plies on it, linking up to the Egyptian State Railways at one end and to the Sudan Government lines at the other. Thus from Gondokoro onwards the tourist can travel in all the simple luxury of river liners and sleeping-cars to the Nile mouth. This also has not always been the case. More than once the Anglo-Egyptian army has plodded its way on foot and by camels, on horses and in barges, through this desolate land.

A Queer Fact.

It is now that we begin to notice a curious mental kink which the Nile imposes on all who serve it. It upsets the points of the compass. In the dawn of civilisation The River dominated the known world of the Egyptians, who spoke of upstream and downstream just as their descendants still speak to-day in another tongue, using the terms as equivalents for our cardinal points. To leave the valley was to go "up," to enter it was to come "down," in the same way as the "in-country" and "out-country" of Dartmoor still survives. But when other peoples came to Egypt who had not known the dominance of the Nile, and had evolved a different

terminology, of north and south, east and west, the Nile took revenge on their disrespect by addling their brains for ever after. The oldest and toughest Anglo-Egyptian invariably stammers in his speech when declaring the bearings of one place in regard to another within the Nile Valley; upstream seems as if it must be northwards. Probably it is really due to analogy with maps, which are always hung with the north upward, and to the fact that in Egypt there is only one possible way of looking at the Nile. However that may be, not only the tongue slips, but the pen also, and the proof-reader too; those who read Lord Cromer's *Modern Egypt* will even find it there.

The Northern Sudan.

Passing northward from Khartoum is a dusty land, bearing on the eastern bank a scrub of thorny acacias, which camels and goats alone devour with gusto; the goat because of his invincible optimism, the camel because of equal pessimism. Some vegetation springs up each autumn between the scrubby trees, only to die down again. This scrub becomes denser and stretches inland when the Atbara River is reached, feeding on the water brought down by it in flood and left in the soil when the river dries up to a chain of ponds. Beyond the Atbara, as the last traces of rain vanish, there is nothing but arid desert, except along the actual banks of the Nile. At Abu Hamed the desert railway strikes off across a dead level expanse of desolations, its pair of rails just peeping above the sand, and its stations merely numbered, not even named in memory of the men who built it under forced draught. As a railway it could not well be simpler; the road-bed was ready for the rails, but the heat, glare, and drought are appalling. The work was well done, and the line is in regular use as a part of the Cape to Cairo route of which Cecil Rhodes dreamed. By moonlight this stretch of desert is marvellous, for there is nothing at all; a silver blur below fades outwards and upwards to merge into a darker silver sky, and the telegraph poles stab across it, painfully black.

IN THE NORTHERN SUDAN

This 150 miles of rail avoids the long loop which the Nile makes through the province of Dongola, which is an anticipation of Upper Egypt, thanks to wide stretches of low-lying land beside the Nile, cut up into " basins " for irrigation. It was up this great loop that Wolseley's expedition was sent too late in 1884, coming in sight of Khartoum only the second morning after it fell. Dongola province is the most habitable part of the Northern Sudan and is not yet fully developed, much available land lying fallow for want of population to work it. One water-wheel worked by buffaloes supports about thirty persons, on an area of about fifteen acres. When the capital of the farmer does not run to a water-wheel and animal power, he employs his own labour on the long counterpoised sweep and bucket called a *shadoof*, which is also used in Egypt. Here in Dongola and Nubia they sometimes improve on the Egyptian pattern by engaging a boy to run up and down a foot-plank fastened to the sweeping arm, as a living counterweight to the water in the bucket.

The Frontier.

At Wadi Halfa the northern terminus of the desert railway is situated on the river bank, surrounded by the workshops which once marked the headquarters of the army preparing for the reconquest of the Sudan. This is the frontier town, and the Nile slides peacefully into Egypt. From here to Assuan the banks become higher and more rocky, so that in some places the river is running in a deep gorge. The two nights spent on the river-steamers along this Halfa-Shellal reach are a blessed relief to the Sudan official going on leave, after the twenty-four hour train journey from Khartoum to Halfa in a summer, which cannot be entirely mitigated in spite of the most practical and commodious of sleeping-cars, dark-blue glass windows, dust-filters on the ventilation, and plenty of ice. A spice of excitement is added to the journey by shifting sandbanks, which, when the river is low, as during the summer, may betray the most wary skipper, and leave the great stern-wheeler stranded for a few hours or a few days

in mid-stream; "stuck on a sand-bank" is a frequent explanation for the unexpected pleasure of a "Sudani's" appearance in Cairo, though less frequently than it used to be before the alternative route to Europe was opened by Atbara Junction and Port Sudan on the Red Sea.

Though the Northern Sudan is not devoid of remains of the influence of Ancient Egypt, it was upon the modern frontier that the old Egyptian Emperors planted the most impressive of all the works which they have left, the great rock-temple of Abu Simbel. A few miles below Halfa the river bends for a little to the west, before swinging south again. Just above this bend the low rolling hills of the western bank approach the river, forming a series of rounded bluffs, dark chocolate in themselves, and thrown into vivid relief by torrents of tawny gold pouring down between them, sand of the desert brought by wind. With their backs to the northern face of the central bluff, facing straight down the great river to the sea across a foreshore of green and silver, there sit four stone statues of the Emperor, all alike, and each as big as a church tower, a pair on either side of the door of the temple, which, like the statues guarding it, is hewn out of the living rock. The great hall of the temple within the doorway is 50 ft. square, its roof supported by eight standing colossi, and behind it are two more chambers with ten small ones surrounding them, before the sanctuary of the Sun-God is reached and its altar, to which, once every year, the Sun himself strikes through at his rising. The emperor who began this work died 1,300 years before the birth of Christ, and still the four great statues sit, watching the Nile flowing before them, down through the open valley, down to their own Egypt.

Abu Simbel.

In this reach of the Nile the river takes on some colour again, thanks to the high rolling cliffs under which it passes, making a background for the fringe of vegetation along the water-level. This Nubian land once conquered Egypt for a while, having itself been founded by Egyptian conquest; it

does not look like it now. The two chief characteristics of its peaceful inhabitants are a passionate devotion to the land, combined with a certain aptitude, amounting occasionally to genius, for service as domestics. Fighting is not the Nubian's hobby, but his mud-built house and village are strangely clean, and his domestic appliances indicate that he has absorbed Western customs in more senses than one, during his visits to Egypt; a plate marked with the name of a famous Cairo hotel, a spoon with an honoured crest, or a cup and saucer with the arms of a Cambridge college, are possibly included in his inventory. The race is not a pure one; the centre of Nubia is inhabited by a different stock from the sailors of Shellal or the farmers of Dongola, and at Toski there is a colony which goes by the name of the Bisinginab, supposed to be descended from Bosnian troops exiled from Egypt for mutiny, many years ago.

The Nubian.

The Nubian land is a narrow fringe by the river bank, sometimes narrow enough to jump across, sometimes spreading out into a bay in the hills. All the water has to be lifted by hand or by animals. From the river it is chiefly remarkable for the vivid colour which the green assumes in contrast with its tawny background. A dusty desert weed, struggling through a torrent of sand which almost hisses into the river from the western bank, looks to be the greenest thing in the world. The clusters of palm trees have stems which appear as though they were washed with blood. Yet the devotion of the Nubian to his country is undeniable. He grows up unencumbered by much clothing, coloured in various shades from light coffee to black, and at the age of ten or so he departs to make his fortune in Egypt. The journey is undertaken under the wing of some relation who has been home on leave, packed closely in the barge towed beside the Nile steamer, and in the third-class railway carriage; or perhaps it is a peaceful drift down-stream in a cargo-boat.

Arrived in Cairo he dons a white robe with a red waistband, with the scarlet tarboosh on his head in place of the turban of his native country, and proceeds to qualify in the school of experience, as cook's assistant, junior house-boy, lift-attendant, or possibly even as the "dear little black boy" who wields a feather brush for tourists' shoes at the entrance to some great hotel. From these employments he passes up the ladder to the higher posts of domestic assistance, learns Arabic as a language for everyday use, picks up a little knowledge of some European language, and a great knowledge of the ways and habits of masters and mistresses. The servant problem is just as popular in Egypt as in England, and for similar reasons, but a pair of good Nubian servants can make a household run on invisible wheels. His own private affairs are in no sense his master's concern, though he may sometimes unbend to inform a favourite master of the advent of a son. He lives in the servants' quarters, possibly maintains a separate household in the town, and every year or so he obtains leave—with as nearly full pay as he can obtain by blarney—to run up a thousand miles and see his people, and his land. The organisation of these Nubian servants in Cairo is quite elaborate; there is a kind of trade-guild, with a headman or Sheikh, and the quality of the applicants for a vacant post is very nicely fitted to the reputation of the would-be employer. The prosperous cook, making an extra sum equal to his pay out of "baksheesh" and commissions from tradesmen, may even have his wife up to Cairo for the season, but usually she stays at home and manages everything and everybody for him. After a number of years, having sufficiently spoiled the hyphenated Egyptians, he retires to his native land, settles down on the land which he has purchased with his savings, and perhaps organises the dispatch of cargoes of dates, in which most of his kind invest their ready money. Then, when the tourist steamer stops at some Nubian halting-place, a picturesque old fellow is seen sitting under the shade of the

Domestic Service.

only available tree, restored to his white turban, and with only one mark of his past life about him, in the form of a good briar pipe!

One day there might arise a great philosopher out of this narrow land. Hundreds of Nubians exercise the profession of door-keepers in Egypt, fated to sit peacefully on a bench in the sun and watch its polyglot world go by. No occupation could be more conducive to the development of a philosophic tendency, to be brought to maturity afterwards in the restful days of old age. Meanwhile it is enough for us that the modern "Berbereen" include in their ranks both the best and the worst domestic servants in the world.

Assuan.

As it approaches Assuan the appearance of the river varies with the season of the year, under the control exerted by the great masonry Dam which there impounds it, the influence of which is felt on the river-levels up to Abu Simbel. After leaving the Dam the river tumbles through the rocky bed of the remainder of the First Cataract, at the foot of which the town of Assuan is situated, on the eastern bank and on the rocky island of Elephantine in mid-stream. This is the strategic frontier of Egypt proper. From this point onwards the valley opens out to a wider floor, varying in width from a few yards on either side of the river, to some thirty miles at most, which lasts for over 500 miles down to the Delta, and constitutes Upper Egypt.

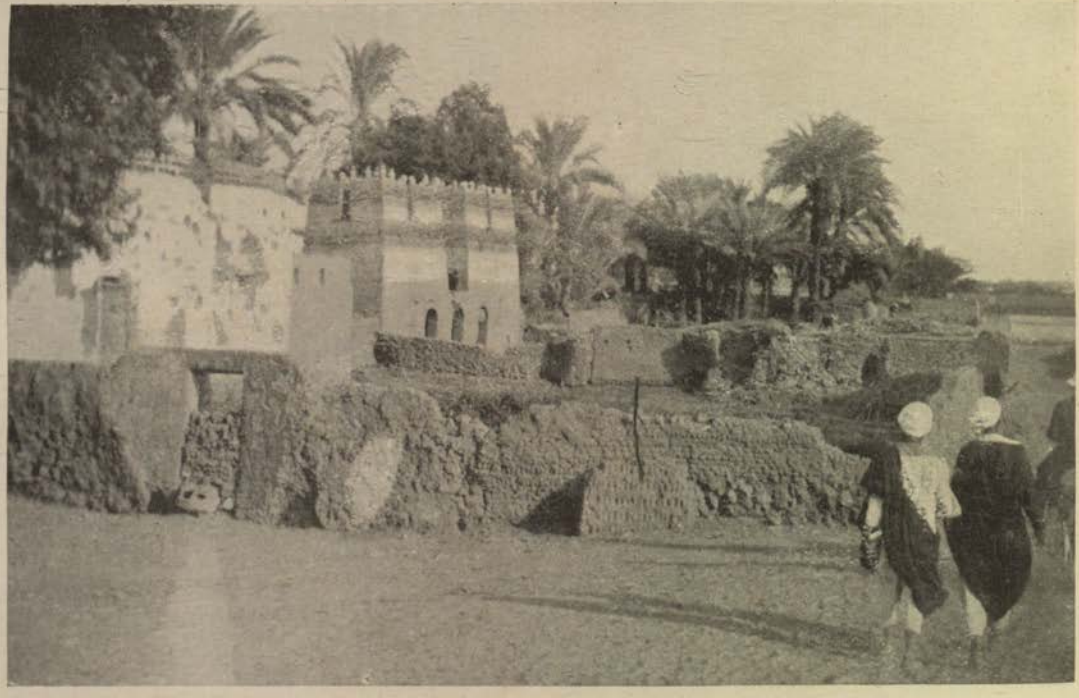
Assuan itself is now an unimportant town as far as the Egyptian is concerned, but it is a favourite haunt of tourists. Its situation at the foot of the Cataract, with smooth water below, picturesque desert hills on either hand, a moderate allowance of antiquities, three fine hotels and plenty of gardens, make its reputation as a winter resort. In the old days its position as the frontier town, guarding Egypt against raids from Nubia, and its quarries of red syenite, made it a place of considerable importance; the governors of Assuan were officials of high importance in the Egyptian State. Caravan

routes through the desert started from here to the Atlantic, as they do from Omdurman at the present time. Nowadays it has assumed a new importance by virtue of the presence of the Dam, which regulates the flow of the river to Egypt, though the little band of engineers who superintend this important task have a colony of their own at the foot of the Dam, four miles above Assuan itself.

The country below Assuan bears some resemblance to parts of the valley up-stream until the end of the Nubian sandstone beds is reached. Thenceforth the valley is carved out of limestone, and takes the form of a wide cañon, with more or less sheer cliffs on either side, rising in their highest parts to a height of 1,000 ft. above the valley floor. This gives Upper Egypt a character of its own. The typical scene which presents itself to the visitor as he wakes up in his sleeping-car, framed in the window, is in marked contrast to that seen in the Delta. A field of waving sugar-cane, like giant grass, is in the foreground, and behind it is a cluster of palm trees surrounding a village ; silhouetted against the dark greens of the cane and the palms is the white dome of a Sheikh's tomb, but in the background rises a glowing wall of rock, varying from purple shadow to the glare of molten brass according to the hour. Towards the river runs a stretch of sandbanks of silvery hue, and beyond the river the same arrangement may be repeated, or the rocky barrier may rise sheer from the water's edge. Such is the typical Upper Egypt picture in summer, but its details vary. Nearly always it contains a native, stripped to a loin-cloth or less, swinging like a machine over the bucket of his *shadoof*, and glistening in the sunshine like an animated statue of bronze.

Scenery of Upper Egypt.

Upper Egypt is a poorer country than the Delta, though not a poor one. The greater heat of the summer limits the crops which can be grown, and the areas involved are not large enough in its most southerly portion to warrant the provision of extensive irrigation works by the State for the



IN UPPER EGYPT : VILLAGE WITH DOVE-COTS

supply of summer water. Only as the Delta is approached does it become habitually a cotton-growing country. In the main its chief saleable productions are onions and sugar, over and above the food and fodder crops consumed by the inhabitants themselves, and in early summer the reek of the onion trains on their way to Alexandria for shipment may be smelt down-wind across the Delta for a mile or more.

Saidis.

The inhabitants of Upper Egypt, the Saidis, or "people of the south," are darker-skinned than the Delta people, and a simpler race, with a reputation for being unmanageable except by chaff. Large gangs of them come down to the Delta during the winter on contract work, clearing silt from canals, each man bearing a sack full of the flat cakes of native bread as his own commissariat supply, and jesting loudly. The irrigation officer who finds such a gang getting out of hand, and desirous of breaking the sub-contractor's head, must have a fluent and intimate knowledge both of the vernacular and of the Saidi, if peace is to be restored. One joke at the expense of the ringleader, if sufficiently broad and comprehensive, will change the temper of the gang to uproarious mirth.

"Antikas."

From Assuan onwards the valley is dotted with the remains of Ancient Egypt. Tombs and temples, statues and obelisks, pass before the eyes of the tourist and under the fluent tongue of his dragoman, till the Rameses and Ptolemies become anathema to him, and life is one everlasting expedition on donkeys. All these remains of Egypt's former glories are more alien to the modern Egyptian than is the railway or electric light. In so far as "antikas" attract tourists, who may be exploited for "baksheesh," or to whom the cunning craftsmen may sell forged scarabs and statuettes at a great profit, the ancient remains are of interest. As for the colossi and pyramids themselves, Allah alone knows, but it is said that they were the work of the Ginns.

The trade of forging antiquities is becoming a respectable profession, and highly specialised; it is a sign to be welcomed, for it implies a revival of craftsmanship, even though the aim be immoral. The expert on gold-work lives at Qus, porcelain work comes from villages opposite Luxor, and so on. Nor are the forgeries necessarily despicable; many of them are excellent copies of a genuine "antiquity," and in some cases the copy is even made with the old tools; there is a workman at Luxor who makes statues out of hard diorite with chisels of soft iron. He sits with dozens of chisels round him, and small boys continually sharpening them, since they become blunted after a few blows. Thus he produces work which in one case has actually been shown for a while in the Cairo Museum itself as the genuine article; he was challenged to copy a statue for a bet with an expert, and the bet was won; the statue was put away in a corner and forgotten, ultimately finding its way into the Museum before its history was remembered. Below this high level come good reproductions which nevertheless show the mark of modern tools, such as a power-lathe; below them again are the unintelligent imitations, skilfully executed though meaningless—but how shall the rich Americani know—and at the bottom of the scale are the forgeries which admit their origin unblushingly, if the purchaser can speak ten words of Arabic. The best of this forged work is surprisingly good, even when simply copied, especially when we consider that the profession is one of most recent growth, and has not been pampered by State encouragement; though possibly that is the reason. It has led to a speculation to the effect that the Ancient Egyptians were just the same; when a demand arose, they met it, even if a Pharaoh suddenly conceived the idea of a Pyramid. This is an exaggeration, but there may be something in it. Dr. Wakeling tells the best of all forgery stories, concerning the rush for pre-dynastic remains when such were being found abundantly in cemeteries in Nubia; the supply of

Forgeries.

the dried-up bodies from pits in the sand began to run out, and one was forged to meet the demand; but the excellent jest was much too good to keep quiet, and it leaked out how "they had sold old Aboutig for £450," the said Aboutig having been a rival forger.

As we pass down the Nile from Assuan the first place of note is Kom Ombo, with a Ptolemaic temple finely situated on a promontory jutting out into deep water, where crocodiles—now vanished from the Lower Nile—were once sacred, and just below it is the remarkable land-reclamation project described elsewhere. After passing the wide plain of Kom Ombo the river is trapped in a narrow gut at the ridge of Gebel Silsila, so named because a chain was formerly stretched across the stream at this point. Further down still is the first sign of man's interference with the river for the purpose of making it distribute itself over the land, in the shape of the Esna Barrage, a weir which ponds up the water behind it. At Esna there flourishes a local industry, the making of brightly-coloured baskets out of palm-leaves, now deteriorating—like most native industries which involve the use of colour—through the employment of aniline dyes instead of the old proven fast colours which were obtained from herbs and other local sources. Oriental carpets are suffering under this same blight; not that there is any objection to a coal-tar dye in itself, but the native confronted with a demand, and with a means of satisfying it more cheaply and simply, does not stop to experiment on the durability of the new dyes he employs. Esna also possesses one of the late temples, a Roman one, while at Edfu is one of the largest in Egypt, built during the two centuries before the Christian era by the Ptolemies, and now only partially cleared from the uncleanly accumulations of a native village.

To Luxor.

Then comes the wonder-land of Egypt, the plain of Thebes, four hundred miles above Cairo, with the town of Luxor in its centre.

There are many ways of "doing" the remains of the metropolis of the Egyptian Empire (1600-1200 B.C.) which surround Luxor, but there is only one way to adopt for the first visit. Two good donkeys, one donkey-boy who will inform all would-be vendors of forgeries, from long range, that their excellencies are no tourists but "sons of the country," and a strong and silent friend; the friend must be full of detailed information, and sworn under a solemn oath to repress it, except on special demand. Thus, in a week, one can *see* Luxor, leaving understanding to the future. No other course is possible without spoiling the first impression by a mental cloud of dates which flutter from 3000 B.C. to A.D. 500.

Thebes.

The plain itself is a wide double bay in the cliffs of the valley walls, with the river flowing nearer the western side. The modern town of Luxor, sacred to dealers in antiquities and to hotels, is situated on the eastern bank of the river, with the Luxor Temple in the midst of it, parallel to the river front, and the temples of Karnak a short distance away to the north-east. Standing on the river-front, or on the pylon of the Great Temple at Karnak, one looks across the river, over the cultivated land, to the rolling ground which rises into the sheer cliffs of the western valley-wall, and sees cluster upon cluster of temple columns, and of black spots in the cliffs which are the mouths of tombs. Out of the green crops, four or five miles to the south-west, rise a pair of objects, mistily purple in the haze, which are the Colossi of Memnon, no longer vocal to salute the rising sun. Out of sight to the right, beyond the temple of Qurna, where the hills come down towards the river, there winds a road round their shoulder, up and into the desert.

Cross the river and follow this road up the course of a dry torrent valley, with nothing but yellow rock and sand on either side, till it suddenly debouches into a natural amphitheatre, sunk deep in the desert behind the valley-wall. This is the Biban el Meluk, the Valley of the Tombs of

the Kings, and the road we have traversed has seen the pageantry of the last journey of emperors who ruled over the known world of their day. At the present time the valley is still partly choked with the sand of the desert, but its sides rise sheer in places from the flat floor, acres in extent. At various points about the floor, and all round the foot of the cliffs, are doorways, once jealously sealed, and now as jealously guarded, leading into frescoed corridors hewn down and down through the solid rock, sometimes for a quarter of a mile underground, opening into halls and chambers, set with deep pits in the floor to baffle thieves or trap the water of a desert thunderstorm; and at the far end of each, under a ceiling painted with stars, surrounded by wall-pictures and hieroglyphic writings to tell of his reign and in prayer for his future in the country of the Dead, with jewellery and furniture such as the artist-craftsmen of to-day can only rival, enclosed in a gigantic sculptured sarcophagus of hard rock, may still be found the body of the Emperor, and from the still features one can read what manner of man this was, and whether his servants wrote truly of his virtues when they laid him there, thirty-three centuries ago.

The Tombs of the Kings.

In another valley are the tombs of the Queens. The colossal seated statue of Rameses II was a monolith of red granite 60 ft. high, weighing 1,000 tons. The terraces of Queen Hatshepsut's temple were planted with fragrant trees from Somaliland. Behind the Ramesseum are still standing the mud-brick barracks and granaries of the temple. The daily tasks of the landowners' estate, his sports and amusements, are depicted on the walls of the smaller tombs, in colour as vivid as when it was first laid on. All we see are but the remains of Thebes; the city walls are gone, and all the houses and pavilions of the rich and poor. Only the work in stone or rock remains intact, and that has been defaced by sacrilege, greed, or ignorance till the best restoration sometimes fails to carry

Fragments of Thebes.

conviction; even so there is enough left to daze the senses. It is almost impossible to think of the great Hypostyle Hall of Karnak as being large enough to conceal the cathedral of Notre-Dame at Paris; circumstances, helped by Victor Hugo, leave the inverse impression; yet such is actually the case. With its avenues of Sphinxes leading down to the river to the landing stages, and continued again on the other side; with its docks and quays crowded with ships from Europe, Asia, and Africa; and as the centre of an empire which extended to the Euphrates and Asia Minor, into Libya, and through most of the northern Sudan, Thebes was no mean city.

Below Luxor the Nile makes a sweeping bend, passing the Temple of Dendereh. In the neighbourhood of Kena, on the outer side of this bend, the river is at its nearest point to the Red Sea; consequently, several caravan routes arise here, the principal one being that to Kosseir, once an important port, about 100 miles away. All over this eastern desert the Ancient Egyptians sought for minerals, establishing posting houses and wells. The peninsula of Sinai was similarly exploited from very early times. This desert area is thus of no small importance in the history of Egypt, though its modern significance as a mining district is very slight. It consists of a range of hills and red mountains near the Red Sea coast, from which run dry "wadis" or torrent valleys, those on the seaward side being short, while those to the Nile are sometimes over 100 miles in length, with a regular system of tributaries. The original formation of these desert rivers dates back before historic time, but they are still liable to carry water; a thunderstorm in the interior will send them down in a sudden spate, several feet in depth, which casts great boulders about like pebbles. Where railways cross the mouths of such a wadi at its arrival in the valley of the Nile, precautions have to be taken, otherwise the line is likely to be washed away with no warning. The Eastern Desert is thus by no means the flat sandy expanse

Desert Rivers.

of tradition, but is a country which, except for its lack of water, is more like the mountainous parts of the British Isles. The amounts of gold which have been taken from it must be enormous, beginning in pre-dynastic times.

Not only did Egypt supply her own wants—and under the early Dynasties gold was commoner than silver—but the kings of the Asiatic countries in the time of of the Empire used to pester their cousin of Egypt to supply them also with the precious metal. Vast galleries were opened, to depths of 300 ft., and a quarter of a mile in length, following the gold-bearing veins; the extraction methods were primitive, and the tax on human life must have been heavy, judging by the descriptions which have come down to us from Roman times. All the early travelling of the Egyptians in the desert was done without the invaluable camel, which only appeared in the country just before the Christian era, and the horse had not been known until the Hyksos invasion, about 2500 B.C. The patient ass was their chief beast of burden.

Gold.

The Libyan or Western Desert of Egypt is of a totally different character. This latter is a wind-swept plateau, varying from an undulating flint-covered plain through dreary hummocks to sand-cut furrows, but it also offends tradition by not being sandy; no sand can rest on it for long. Great lines of sand-dunes, shaped like a crescent, are found in certain districts, but they are only an insignificant part of the whole. Such dunes have the back of their crescent to the prevailing wind, and are never still; sand is picked up by the wind from one face, and dropped on the inside of the crescent, so that they creep slowly onwards about fifty feet in a year, burying everything in their path. The golden torrents, which form such a characteristic feature of the west bank of the Nile in the Shellal-Halfa reach, are composed of grains of sand which have at last attained to some shelter from the winds of the desert.

Sand-dunes.

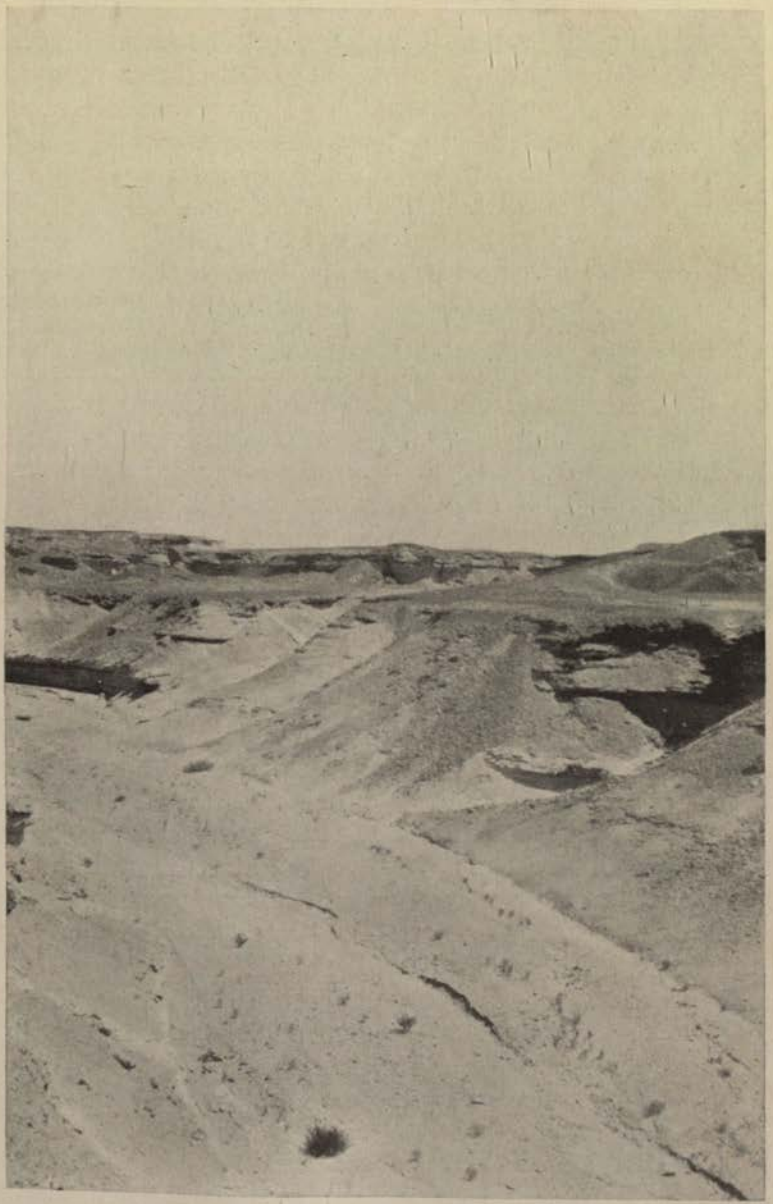
These inhospitable plains are traversed with skill by the Bedouin nomads, who will take short cuts across trackless wastes without even a landmark to guide them. The definite tracks which exist are determined by the presence of wells, or rather of places where water can be obtained; practically all the springs in this desert are derived from water which has passed under ground for enormous distances, whereas in the Eastern Desert many of the wells are natural rock-basins replenished annually by thunderstorms. Where a desert spring is fairly large and flows steadily, the Arabs keep a series of basins scooped out so that water is always ready; but a small one, or a basin, is usually allowed to fill up with sand, which is cleared away when a party arrives, and in the meanwhile has reduced the loss of water from evaporation. The wells of the Eastern desert are often elaborate after their fashion, with crooked shafts descending 20 or 30 ft. underground. Such surface wells are often very saline, and the water from them would sell well in bottles with a special label; from some the Bedouin themselves will not drink, unless the solution is mixed with milk. While the Bedouin will go almost anywhere in the Eastern desert, they treat the Western desert with respect, and even with fear.

Desert Water-supplies.

Whirling dust-devils may chase them, steered by the malignant Ginn it embodies; the valley-bred fool runs from such a horror, and when it catches him his panting lungs are filled with sand, and he dies; but the Bedouin wraps his head in his blanket, sits down, and waits till the howling whirl of sand has passed. There is a chance of being buried alive, but at least he escapes serious risk of suffocation.

The Dust-storm.

Another traditional belief regarding the desert is that it must always be hot. Those whose work calls them into the desert take thick clothing with them, for though it is rarely cold during the day, and though in summer the sun is a messenger of torment, yet the nights may be bitterly cold. Even when



A DESERT RIVER-BED

the thermometer does not approach zero by several degrees, ice will be found on any open vessel of water in the morning, owing to the cooling effect of evaporation caused by the extreme dryness of the air.

Thirst.

Under desert conditions—and the climate of Upper Egypt is only a modification of such conditions, perspiration is difficult; but if the hand is placed on the cheek for a few seconds, checking evaporation, it comes away dripping wet. In the Northern Sudan, and in the Egyptian desert in summer, a real thirst can be raised by nightfall; the tiny tumblers which suffice for the needs of England are merely as egg-cups would be; the contents of one long glass vanish with a hiss, and leave no appreciable impression, nor does the next. It is not until consumption has been counted in quarts that any partial approach to satisfaction is felt, with the restoration of the normal water-content of the body. Moreover, if such equilibrium is not reached, within an hour or two after starting out next morning the tongue will be cramped in the back of the mouth, and speech and breathing will be painful. This is merely a slight water-shortage. To die from thirst is very horrible.

Appropriately enough, besides being the starting place for the Eastern Desert routes, Kena is also the centre of the pottery industry of Egypt, where the porous water-jars which cool themselves are made.

Water-jars.

The clay is unglazed, left with a surface and texture coarser than biscuit-ware and finer than brick, so that when a vessel is filled with water it slowly sweats; the evaporation of this water from the outside is rapid in the dry air in Egypt, and it cools the contents. Some idea of this cooling may be gathered from the author's observations in Upper Egypt, when the large native pots were being used as cold incubators for bacteria; the shade temperature was ranging daily from 115° to 70° in a room with the windows kept open, but the temperature of the water in the *zeers* never exceeded 70°. There are several forms of these vessels,

but the three main types are the *zeer*, the *'oolah*, and the *balass*. The *zeer* is two or three feet high, with a wide mouth, and a bottom like a soda-water bottle; the *'oolah* is small and flask-shaped, moulded with a perforated grid in the neck, so that when inverted its contents trickle gently into the open mouth of the drinker; the *balass* is the big bottle with two ear-handles on a small neck, familiar in all pictures of the women carrying water, poised on their heads. The habitual and daily transport of this heavy load is supposed to be responsible for the erect and easy carriage of the Egyptian women. From Kena these products of the local potters are sent down river, piled up in stacks on the lateen-rigged cargo boats, to be sold all over Egypt.

A little way below Kena a single line railway strikes off from the western bank, and climbs steadily up into the heart of the Western Desert for about fifty miles. At the end of its long climb the rim of a depression is reached, and it runs down into the first of the Western Oases, called the Oasis of Kharga. These oases form a chain extending nearly to the Mediterranean; Kharga, Dakhla, Farfara, Baharia, and Siwa. The last-named was famous in Roman times for its temple of "Jupiter Ammon," actually of Amon, where Alexander the Great had been deified; at the present day its interest lies in being under the influence of the Senussi organisation, a sect of Mohammedans. The oases constitute a world of their own, of slight economic importance, but unique. They owe their origin to the presence of large springs of water which come to the surface at the bottom of these depressions in the desert, and they would appear to have been better provided with water in Roman times than they are at present. That of Kharga has been developed by a land company, hence accounting for the railway to it, and is now accessible to tourists.

A Desert Oasis.

The depression in which Kharga Oasis is situated sinks nearly to sea-level; the total population supported on the crops grown by means of the well-water is about 8,000. The

village of Kharga is quite exceptional in its construction, the streets being built over to form tunnels, with only a few apertures for light left in the roof; in the event of a raid by nomads from the desert, these apertures were closed, and the raiders would have to stumble in the dark, tricked by baffle-walls built across the streets, and altogether at a serious disadvantage. Even the pottery of Kharga is peculiar, showing the survival of Roman influence, and quite distinct from that of Egypt. Various ancient remains exist, but none are older than the time of the Persian invasion, most of them being Ptolemaic; the valley was probably occupied by a lake in those days, possibly as the result of too ambitious and successful attempts at boring for water, whereby the whole floor of the depression was flooded. The water which gushes from the modern artesian wells is warm, nearly to blood-heat, and fizzes like soda-water with gases dissolved in it during its long underground journey; its origin is uncertain, possibly being derived from the Southern Sudan. In former times it was not only obtained from wells, but also from great subterranean aqueducts, with vertical shafts leading into them from the surface; these aqueducts filled themselves with water, which could then be drawn out from them. Dates, rice, and maize are cultivated, and numerous other crops have been grown.

As is only natural in such remote places as the Oases, there are many peculiar customs, mixed with legends of Roman times, among the native inhabitants. One which has been put on record is a cure for fever; the sufferer is invited to take a walk with a friend, who then pushes him, all unsuspectingly, into a convenient pool of water. The author has seen a similar remedy applied for a fall from a camel in the Delta, the unconscious victim being dropped into the nearest irrigation channel, and then hung out on his camel to dry. The sub-division of the water amongst the various persons who may hold "shares" in any particular well is effected by a weir cut into notches which are proportionate in size

to each man's share; or else, when the water is required intermittently, by allowing its use for a certain number of hours as determined by a primitive sundial or by observing the stars.

A short distance north of the junction between the Kharga line and the main railway down the Nile Valley, on the edge of the desert, the remains of Abydos are situated. This ancient city, apart from its possession of great temples of the time of the Egyptian Empire, contemporaneous with those of Thebes, was sacred as the traditional burial place of Osiris, the Lord of the Dead, and is surrounded by the tombs of countless thousands who sought to be buried near him. It thus dates back to the dawn of Egyptian history, not less than 5,000 years ago, and probably older still.

Near the large modern town of Girga are the remains of Thinis, which once provided a dynasty of the kings of Egypt, and further north still, near Sohag, are the two great Coptic Monasteries founded during Roman times, known as the White and Red monasteries. All this district of Upper Egypt, down to Assiut, is remarkable for the large number and influence of its Coptic inhabitants. The Copts are a small minority of the total population of Egypt, but with an influence which is much greater than their numerical proportion. They are a remarkable example of the effect of religion on national ability, whether through educative influence, or—as is more probable—by selective action. Racially they are identical with the rest of the Egyptians, though formerly it was thought that they themselves were the only real Egyptians, and that the followers of Islam were invaders. Modern investigations have disproved this view, and we now know that the only difference between Copts and Mohammedans is that the former have adhered to the religion introduced to Egypt in Roman times, while the latter have been further converted. The name of the Copts is a corruption of the Greek "Aegypti." The mere fact of their being in a minority probably indicates

The Copts.

that they originate from the more stubborn elements of the population, which was Christian at the time of the Arab invasion in A.D. 639, and may account for their very distinct differentiation from the Mohammedans. The process of selection which such an explanation entails was not the fanatical "fire and sword" one which is usually accredited to the followers of Mohammed, but lasted through several centuries, and on the whole was rather mild, though occasional Mohammedan governors of Egypt made matters unpleasant for the Christians. It is, therefore, probable that we may attribute the differences which the modern Coptic Christians and the Mohammedans show one to another, not entirely to the educational influence of their respective religions, but also to the sifting-out influence of the fact that Islam and Christianity appeal to different types of mind.

This point is important, since it has a direct bearing on the future evolution of the Egyptian, and upon the treatment of the problems involved in his education.

A "Mental Race."

The Coptic Church is peculiar to Egypt, ranking in theological history as the complement of the Orthodox Greek Church. It arose from the schismatic controversies of Alexandria in Roman times, the followers of Theodosius refusing to accept the doctrine of the Council of Chalcedon, and being consequently persecuted. They practise their own ritual, and possess their own language, descended directly from that of Ancient Egypt. They profit in comparison with the Mohammedans by the practice of monogamy, by the freedom of their women, and by a less fatalistic outlook. Consequently they provide a large proportion of the skilled work of Egypt, and of the subordinate staff of government. On the other hand, being in a minority, they are inevitably debarred from exercising the full political influence to which their social influence might entitle them if Egypt were not primarily a Mohammedan country. The consciousness of this fact, acting through centuries, and the fact itself, have reacted

not altogether favourably upon the mental racial characteristics of a part of the Copts. The distinction between mental and physical characteristics in their case is worth bearing in mind; physically Egyptian still, like their fellow Egyptians, they have been selected by circumstance until they constitute a fairly definite "mental race," unlike the Mohammedans, and unlike the old Egyptian stock from which both are derived in so far as their brains are concerned.

The town of Assiut lies below the second of the barrages across the Nile, a long succession of arches stretching across the river like those at Esna upstream. It is picturesquely situated under a big bluff in the wall of the valley. The red and black pottery of the district is peculiar to it, and is interesting, inasmuch as the score or so of designs to which all the vases are made show strong Greek affinities, though the material and the industry are far older than Greece. Assiut is best known to the tourist by its shawls, made by clipping short lengths of silver tape on mosquito netting in glittering patterns; they are sold by weight to the initiated, but otherwise are extremely profitable.

Assiut.

The valley cliffs approach the river below Assiut, for a time changing the scenery back to that of Nubia, and another notable change in the appearance of the landscape results from the disappearance of the Doum-palm, which thus far has accompanied the Date-palm. The broad fan-shaped leaves and branching stems of the former do not flourish north of this district, and the feathery crown of the date-palm henceforth holds undisputed sway in the upper air; this is a sign that the torrid heats of Southern Egypt are giving way as the river passes northward to the cooler climate of the northern Delta, which is dominated by the influence of the Mediterranean. Where the Doum-palms end, cotton begins, and, from this district onwards to the sea, the valley of Egypt is arranged more and more particularly for the production of this

Dates and Cotton.

air-built source of wealth, which constitutes the chief export from the country. Further south the climate is too severe for successful crops of cotton to be grown, and even to the north, down to the latitude of Cairo, a special variety is cultivated which can thrive under the stringent climatic conditions. Moreover, cotton requires an ample supply of water during the summer, which the old system of flood irrigation, as retained in the south of Upper Egypt, does not provide except at the cost of interminable labour in lifting water by hand or by pumps. Modern science will probably extend the cotton-growing area, but for the present it does not begin until Assiut is reached.

The Remains of the Past.

At Tell-el-Amarna, some fifty miles north of Assiut, are the remains of the city of the heretic Emperor Ikhnaton, who built his capital there, abandoning Thebes. His reign marks the culmination of the importance of Egypt to the world at large in 1300 B.C. The religious and mental revolution which he effected came to nothing, and Egypt was thenceforth frozen into a mighty figure, devoid of the life-giving instinct of progress, and gradually decaying into the simple state of to-day, in intimate contact with the soil from which she first arose.

The remains of century upon century, scattered all over this length of the Nile's course culminate in the greatest —and one of the oldest—of them all, at the Great Pyramid of Giza, opposite Cairo. In the rock tombs of Beni Hassan, between Tell-el-Amarna and Minia, on the east bank, however, there are remains which may not be passed by unnoticed. In these chambers may be seen the birth of the art of Greece, which has permanently influenced the civilisation of the Western World; almost all its typical features may be seen in these tombs in their primitive forms, executed by Egyptian artists without external inspiration; even the classical "key-pattern," beloved of the designers of linoleum, is there in its infancy.

Minia is one of the chief towns of Upper Egypt, about 170 miles from Cairo, situated on the debatable ground between two different kinds of summer cultivation. It is the southern limit at which sugar-cane can be grown profitably for sugar-extraction, and it lies within the boundary of the cotton area. Sugar-cane is grown in most other parts of Egypt, but only as a toothsome dainty. The cabman on his box, or the Europeanised schoolboy trudging to school, buys a stick of sugar-cane, breaks it over his head as we should break it over the knee, takes a bite and proceeds to chew it. The sweet juice, rather flavourless, is retained, and the fibre is ejected, to be followed by further bites till a yard or so has been consumed. An inch alone is sufficient to make unaccustomed jaws ache themselves to a standstill, but the native teeth and jaws are highly efficient.

Sugar-cane.

Approaching Cairo still nearer, the river passes Beni Souef, near the site of old Heracleopolis, and the centre of the Upper Egypt cotton crop; then comes Wasta, the junction for the Fayoum Province, which lies outside the Nile Valley like a bud on a stalk. This province of the Fayoum is unlike the rest of Egypt, if only in possessing some scenery of a more usual kind than the cliff-walls of the main valley.

The Fayoum.

The Fayoum owes its origin to the presence of a depression in the desert, just behind the low western wall of the valley. At some early period in Egyptian history, whether naturally or accidentally, this depression was filled by the overflow of water from the Nile. A similar, but smaller depression adjacent to the south, called Wadi Rayan, has remained dry. It thus became a large lake, known as Lake Moeris, connected with the river upstream by a channel. In later times —later, for Egypt, that is—it was turned to account as a storage tank and regulator for the river, and its reclamation was undertaken. The Nile flood was allowed to flow down the inlet channel now called the Bahr Yusef, raising the

lake-level, and this water was subsequently allowed to escape during the summer; its special virtue was that it served to minimise the dangers of a very high flood. The reclamation of land which began where the Bahr Yusef entered the lake was gradually extended, and the lake level was lowered until it has become one of the most fertile provinces in Egypt, with nothing remaining of its former condition, except a stretch of water, some thirty-five miles by eight, in its north-west corner. It is a province with an agricultural reputation; "Fayoumi" grapes and figs, and its breed of fowls, are celebrated throughout Egypt, the last having been probably introduced from Greece long ago, just as the "Armanti" dog of the Bedouin is said to be the descendant of Pyrenean sheep-dogs introduced more recently. A number of ancient remains are found in the Fayoum, including the Labyrinth described by Herodotus, which was once a building with twelve courts and 3,000 chambers, each chamber roofed with a single huge slab; while at the entrance to the Fayoum are the most southerly members of the long line of Pyramids which stretches northwards to culminate at Giza. The feature of the Fayoum, however, is that it is a land of flowing streams, and the result of this is seen in the frequent employment of the "Persian Wheel" for lifting water; vanes on the rim of the wheel allow it to be rotated by the water into which it dips, and a little of this water is carried up by compartments built in the rim, to be spilt out into a channel at a higher level.

The Pyramids.

From the Fayoum to Giza, which is opposite Cairo, the western edge of the valley is crowned with a succession of groups of points, silhouetted in hard outline against the sky. These are the Pyramids, the tombs of the Kings of Egypt of the Third to the Twelfth Dynasties, whose rule dates back on the most conservative estimate to an epoch which begins with 3000 B.C. and ends at 2000 B.C. The line of them extends through Illahun, Lisht, Dashur, Sakkara, Abusir, and Giza.

At their foot, behind the modern village of Bedrasheen, lie the remains of the city of Memphis, once the capital of United Egypt long before Thebes was more than a petty principality, now merely heaped with sand and planted in palm-groves, with two great colossi lying prone in the midst. It is a favourite day's outing for the Cairene. On the opposite bank is the little town of Helwan, famous for its malodorous sulphur-water baths, and now an appendage of Cairo. The separate railway which unites it to the capital is a never-ending resource for the grumbler, but it has been much improved; not so very long ago a native signalman gave the right of way through a station to both of two trains meeting one another on its single track; by virtue of the usual Egyptian's luck, their arrival was so nicely timed that both had entered their switches into the double line through the station before the other one got out at the other end, and nothing happened. The management is different now.

The End of the Valley.

A few miles further down the river comes Cairo, on the eastern bank, beginning with a busy river-side port, and the remains of Fustat and the fortress of Babylon behind, then residential quarters, and the British Agency garden overhanging the river, behind which again lies Cairo proper. The Nile forks right and left to enclose the Gezira quarter, with its villas and Sporting Club, which proudly possesses the only fields of grass in Egypt, and then again on past engineering workshops, past the northern port of Cairo, and the long narrow valley which has lasted since Khartoum is at an end. A few miles further down the Delta begins, while behind and over Cairo the cliffs of the eastern wall of the valley are seen turning away to the east at last, with Saladin's citadel perched on the shoulder of the salient, dominating the city. On the western side the low hills of the Pyramid plateau are dropping out of sight. The country level is only some 60 ft. above the level of the sea, which lies about 100 miles to the north, and in this

triangular plain of the Delta there is hardly an elevation to break the skyline, and scarcely anything but water and crops to interest anyone. Apart from the smaller demands of Upper Egypt, the whole function of the last 1,000 odd miles of the Nile's course is to provide water for this 100-mile triangle, which carries a population of 6,000,000 people, exclusive of big towns, on a cultivated area of little more than 3,000,000 acres, exporting annually about £20,000,000 worth of cotton, besides enabling its inhabitants to live entirely on the other produce of its land.

The queer status of Modern Egypt, and its bewildering mixture of three continents at once, is most clearly visible in the metropolis which 'Amr founded. East and West jostle one another alternately in its streets. Electric trams of French pattern pull up the hill to Saladin's citadel, where British soldiers are quartered; another tram runs over a Belgian bridge across the Nile and out to the foot of the Pyramids, passing Bedouin on camels, and being passed by American-made motor-cars, along a road which was made for the Empress of the French. Go down to the Bazaars, where sandal wood and morocco slippers scent the air, and be offered a patent telescopic walking stick made in Germany; or buy a rug of Bokhara, and learn that the vendor is agent for a famous London firm of furnishers whose buyers traverse all Asia for oriental carpets. The coffee-coloured Nubian cook provides Yarmouth bloaters from the cold storage for breakfast, and buys Australian meat from the same. The palace of Gezira, where Ismail took his pleasure, is now a giant hotel, one of seven such monsters, and the hotel which Shepheard founded in the open fields is now in the centre of Cairo. Native clerks croon their accounts aloud to the chick-chick accompaniment of typewriters, and the telephone central exchange takes numbers indifferently in Arabic, French, English, Italian, Greek, or anything. There is no lack of variety in Cairo; there is so much that it becomes monotonous. It is civilised

Cairo.

ahead of Parisian fashion, it has only just got a drainage system, and it is the seat of Government.

Take the city of the Arabian Nights, batter it a little, add some corners of Paris, a street or two from Marseilles, and a dash of the select parts of Ealing (forgetting to finish off any of the side-walks), tack on an "art noveau Arabe" garden city with sand instead of gardens, run up ten-storey flats in the European business quarter, populate it with every nation, clique, interest, sect, faction, and occupation under the sun, and you will realise that it can have only one effect on its resident, it keeps him to himself. Cairo is too complex to understand, and the Cairene is therefore parochial.

To describe the life of Cairo would be difficult from any one point of view, but its points of view are innumerable; the Hindoo tailor knows nothing of the Turkish Pasha, nor the British Army officer of the Greek café-keeper; the Turf Club and the Higher Schools Club are as the poles apart, and the Cairo Scientific Society has little in common with El Azhar University. The missionaries and the Italian sub-contractor think quite differently about native labourers, and the business man of all nationalities wonders why Allah made Government officials.

Then, as if this were not enough, there are two of these cosmopolitan, polyglot Cairos. There is a Cairo of the "season" and a Cairo of the summer. The one is restless as a catherine wheel, pivoted on the great hotels, and the other is nearly as peaceful and subdued as a Trappist monastery. The Opera Square in the winter is a dancing maze of traffic; taxis, cabs, and donkeys, itinerant vendors and snake-charmers, dragomans, and tourists. On a summer afternoon it is a wide emptiness, with a native asleep in every patch of shade, the kerb-stone his pillow, and the two mules drawing the water-cart prop one another up affectionately as they jingle along.

The irrigation system on which the Delta depends is described elsewhere. It traverses the whole Delta with

IN THE BRASS BAZAAR AT CAIRO

canals of all sizes, into which, during some of the summer months, the whole of the water of the Nile is diverted, leaving none to flow down its two natural channels.

The Delta.

These two channels are named after towns near their mouths; Damietta on the eastern branch, Rosetta on the western one. In pre-dynastic times the Delta was smaller, probably forming the bottom of a wide bay, into which it has gradually been extended by continual deposition of silt at its mouth. For the past twenty centuries it would seem to have reached the limit of its natural extension seawards, the curved projection which it makes into the Mediterranean being prevented from further growth by the sea currents which sweep the silt brought down in flood away to the east, incidentally rendering a long breakwater necessary to help in protecting the entrance of the Suez Canal at Port Said. The corners of the Delta triangle are Alexandria, Port Said, and the Delta Barrage.

Like all deltaic formations, it has seen many changes in the course of the river-branches which traverse it. In Roman times there were seven main outlets, in place of the modern two, the most easterly of these being the Pelusiac mouth, to the east of the modern Suez Canal, where now there is little but desert. Some of the modern canals, or parts of them, utilise the line of old river-channels, and may be recognised by their erratic windings. In other places, especially in the north, the course of an old channel may be traced as a line of marshy ground, an excellent place for snipe. All these past alterations tend to make the soil of the Delta (and of Upper Egypt also) very erratic; in some fields sand will be found close below the surface, while in the next field a bore may be made for many feet without finding anything but fine-textured clay. All these differences react on the properties of the soil above, affecting the natural drainage and retentiveness of water. Layers of gravel are found below these finer sands and clays,

The Soil.

and play an important part in the life of the district, since they are in more or less direct connection with the water of the river, miles away, and their water can be obtained for the trouble of lifting it. Below these again come coarser deposits, to an unknown depth; bores have been made 1,000 ft. down without coming to rock. In the northern portions of the Delta the soil usually contains a considerable amount of salt, and the fertility of the land in this district is inversely proportional to the amount of salt which it contains; the improvement or reclamation of land there consists in washing out the salt. About 1,000,000 acres will ultimately be restored to the cultivated area of the Delta in this way, which were under cultivation in Roman times, but have since become derelict. These "Barari" lands form a fringe along the north, with various shallow salt lakes separating them from the sea; they are desolate beyond expression at present, their bare soil showing powdery on the surface, owing to the salt in it, with a scattered and useless vegetation of such weeds as are tolerant of the salt. The lagoons on their seaward side are of importance as fishing centres, and Lake Menzala, behind Port Said, is now being used for water-borne traffic to the interior. The other lakes along the coast, going west, are Borollos, Aboukir, and Mariut, the latter lying behind Alexandria.

Alexandria.

Alexandria is the antithesis of Cairo. In Alexandria a government official must possess other claims to distinction. Yachting takes the place of polo, and business is business. Everyone in Alexandria talks cotton; in Cairo it is a delicate subject. Alexandria is a great Mediterranean port, with a rather unfinished-looking seaside resort annexed, while Cairo is Cairo. Alexandria is cooler in the summer, and not so cold in the winter, and it often sees real rain, but it is much damper. Also, being a Mediterranean port its interests are more European; on the whole, it is a better place for permanent residence than Cairo, and it is not so bewildering, but its cabs

are distinctly inferior, and the lower orders of the population are very low indeed.

It has passed through many vicissitudes since Alexander the Great founded it. After the Arab conquest it lost its position as capital of Egypt, and sank into insignificance; Rosetta and Damietta had inferior harbours, but they were situated on the Nile itself, and profited accordingly. At the beginning of last century the town was almost at its lowest ebb, but the commercial enterprise of Mohammed Ali led him to take a keen interest in it and it grew rapidly, being linked to the Nile by a canal which was dug in less than a month. It thus handles water-borne traffic from the interior, as well as that which is carried by rail, and its immense harbour can accommodate the largest ocean liners securely. Most of the international trade of Egypt, and all the cotton crop, passes through Alexandria, although Port Said is trying to take a share. On the other hand, the tourists treat "Alex" with less respect than it deserves, and of any other country than Egypt it would be hard to believe that some hotel-keepers of Alexandria actually started an agitation against special boat-trains; they wanted the Government to prevent any tourist from passing along to Cairo on the day of his disembarkation! This was not in the Middle Ages, but about A.D. 1912, and the said hotel-keepers were not Egyptians.

The Delta towns and villages are almost innumerable, since land is too valuable to allow of isolated houses being scattered about, nor does the gregarious instinct of the Egyptian approve of such dispersion. Further, though this is a less potent reason at the present time, the concentration of families into compact villages, with outer gates which can be closed at night, serves as protection against marauding brigands. Some corners of Egypt still have a bad reputation for cattle-lifting and cotton-stealing, and stories are still told by the cultivators of underground stables in the Barari wastes, to

Brigandage.

which the brigands retired with their loot. The problem of dealing with brigandage was a serious one in the early days of the British occupation, especially in the Fayoum, but the same wise policy was followed as by the American police with their turbulent Irishmen ; when a brigand became particularly notorious, he was rounded up, and ultimately given a post as a *Gaffir*, practically a policeman, whereupon, clothed with authority, zeal, and an extensive and peculiar knowledge of criminal ways, he became a terror to evil-doers. The most remarkable feature of these towns and villages is the density of their population, a town of 10,000 inhabitants occupying only a few acres.

Apart from Cairo, which is the largest town in Africa, with a population of about 700,000, Alexandria, with about half the population of Cairo, and Port Said, the principal town of Lower Egypt is Tanta, lying in the centre of the Delta, and famous throughout Egypt for its tomb-mosque of Sheikh Ahmed el Bedawi, in whose honour the largest fair in Egypt is held there yearly.

Tanta is an interesting example of the transition through which the superficial life of Egypt is passing. For a while it was under the control of an Egyptian governor who rapidly Westernised a part of it, with the result that it is a town of weird contrasts. During his *régime* a large party of distinguished visitors who were holding a Conference in Egypt was shown round, their progress being most skilfully stage-managed. From their special train, with its dining and sleeping-cars, they stepped into the little pair-horse victorias which are the cabs of Egypt, and drove out of the station down a narrow street, the side-walks of which—never the strong point of such a street—were packed ten-deep with a crowd of natives of every type, from the prosperous and portly merchant in silken robes and turban, to the blue-shirted fellah in his felt skull-cap. In the windows on either side, and on the house-tops, hundreds of veiled and unveiled women crowded to view

Showing-off.

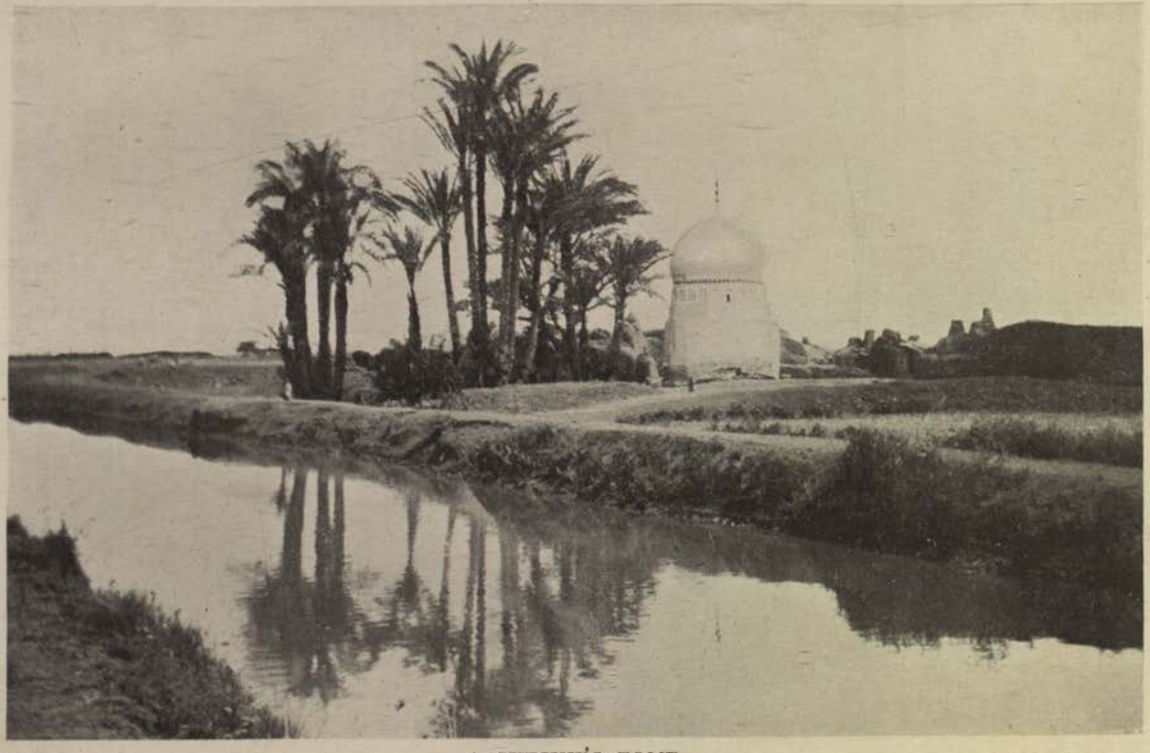
the procession of foreigners, while the police in blue uniforms and red tarbooshes, helped by the gaffirs in their yellow cloaks, and by the long staves of the latter, kept back the crowd, who, though interested, were not too pleased at the idea of these " nazrani " visiting the mosque of their Sheikh in such crowds. At the end of the street stood the famous mosque, round which the visitors were shown with every courtesy, which in itself was a high privilege; then the procession moved off, leaving this Arabian Nights episode behind it, along a distinctly unfinished street into a region of wide open roads, with kerb-stones and incipient avenues of acacia, to look at European buildings, such as orphanages, schools, and technical schools, standing on the outer edge of the town, with growing crops beyond them. It is written that on this occasion the band of the orphanage, having been but newly constituted, played the British national anthem so that a musician among the visitors asked a resident accompanying the party whether he was learned in " this Arab music." The new quarters having been inspected, the party adjourned to the new Public Gardens, with their bandstand. The idea of spoiling good land by public gardens is entirely novel to Egypt of to-day, and is of questionable utility, since it is hopelessly expensive to expropriate land in the centre of a town, where the gardens would have some function as a breathing space, and when planted on the margin of a town they serve very little more useful purpose than the fields beyond. However that may be, there was a reception in a great marquee of the kaleidoscopic ornamental tenting, and native musicians sang and played in the European band-stand, until finally the party drove back to the railway station in the gloaming, by a circuitous route carefully selected to traverse all the best asphalted streets, over which the rubber-tyred victorias ran smoothly and noiselessly, past busy shops, *Magasins au Louvre*, and the like. It was a wonderful day for the visitors, but it was still more wonderful for the residents who accompanied them, for it was not Tanta. The

resident who rashly ordered his cabman to leave the procession and take a short cut to the station discovered that the man had been brought up from Cairo and knew Tanta not at all, by the simple act of his taking a wrong turning in a very dusty alley, and instantly pulling up with the forefeet of his horses well down the bank of a canal. The short cut reached the station at the tail of the procession, with the cab-springs severely shaken.

Civilisation and progress—if there are such things—are excellent when suitably developed, but one sometimes wonders whether such direct importations from the West are entirely to be desired. The great Fair of Tanta presents to us the town under a different aspect, also not entirely desirable, and yet more natural.

Besides Tanta, the metropolis of the Delta, there are several other large towns. Kafr Zayat on the Rosetta branch of the Nile is a hive of cotton-ginning factories, and the centre of this trade in the Delta. Damanhour lies further along the railway to Alexandria, and is the chief town of the Behera province. On the Damietta branch of the Nile are Benha, Zifta (where the last of the Nile barrages impounds the river), Mansura, and Damietta. These last-named two we have already mentioned as the scene of two separate campaigns of the Crusaders. Damietta is quite unlike other Egyptian towns, and has been called the Venice of the Delta; its houses rise from the water's edge, with wharfs and steps before them, and the heavy winter rains have made it necessary to use burnt brick in the buildings, thus giving splashes of colour through the broken stucco which covers it. Viewed from a little distance the town is a fascinating jumble of minarets with lateen sails and the cordage of square-rigged ships, for the river is deep, and vessels of large tonnage can enter Damietta and discharge their cargo. The town has fallen sadly from its old estate, Alexandria having taken most of the trade which it formerly enjoyed, but though dilapidated, it is still picturesque.

Delta Towns.



A SHEIKH'S TOMB

Stucco is the bane of modern Egyptian buildings. The Ancient Egyptians worked their temples and tombs in stone, but private houses were constructed of wattle daubed with clay, and of mud-brick, the latter being merely dried in the sun when for use in the rainless districts, or burnt when intended for exposure to rain. Thus, except in rare instances where such buildings have been buried under sand-drifts, their minor architecture has perished. Now, buildings in mud-brick do not sound pleasant, but there is a great deal to be said for them; they are cheap, since there is no cost of fuel—which is scarce and expensive in Egypt—for making the bricks; they are efficient sun-stoppers, and can be made very thick-walled; their roofs can be constructed in domes of thick brickwork, all in one piece with the wall. Provided that the brickwork is well laid without interstices, and the subsequent plastering with mud is thoroughly done, the whole structure becomes a solid mass of dry mud, which only needs white-wash to make it handsome. It does not harbour vermin, and there is a minimum amount of wood-work, which is no small advantage, since wood is scarce, dear, and bad in Egypt as a rule, and even when good wood is employed the heat of the sun and the extreme dryness of the air rapidly spoil it. In the old temples they employed a mortar which was not made with lime, like ours, but with gypsum, of which there is abundance in Egypt, and which is quite satisfactory in regions of low rainfall. From the crevices between the stones of the old temples this gypsum has overflowed until it covers the walls of most of the more pretentious buildings in modern Egypt, and the sins which this stucco covers are innumerable. A foundation may have been badly laid and it sinks at one corner; the stucco coating is moulded well and truly level, though the courses of bricks below are all askew. Then, again, plaster is so light that it leads to all kinds of insincerity in design, largely imported, be it said, by European builders. Great blocks of flats in the towns have their

Modern Buildings.

balconies supported by iron floor-girders which project through the walls; to finish them off, a monster bracket of stucco is fastened underneath, nominally supporting the balcony; when alterations are being effected to such a balcony, a small boy with a small hammer is lowered on a cord to demolish the bracket, and often with the very first tap the bracket is shattered, or the hammer may disappear in its hollow centre, and the small boy has to go up to get another one. There is, moreover, no mellowing effect of old age where a stucco structure is concerned; the bad work it conceals gives way, the stucco cracks and peels, and in a very few years the building has descended to a disreputable decrepitude. One is tempted to think that a decree forbidding the use of stucco in Egypt would have a salutary effect on technical morality.

The Suez Canal.

On the eastern side of the Delta lies the Suez Canal, in a world of its own, not concerned with agriculture. A canal known as the Ismailia starts from the east bank of the Nile just below Cairo, waters the Land of Goshen along the south-eastern side of the Delta, and then carries a narrow strip of cultivation along with it across the desert, past the battlefield of Tell-el-Kebir, where Arabi Pasha's revolt was broken in 1882, and on to Ismailia.

Ismailia is the headquarters of the Suez Canal, and is practically a French town, laid out with plenty of trees in its gardens, blazing in July with the bloom of the Gold Mohur. Here the Ismailia canal from the Nile forks north and south beside the Suez Canal, and—as the Sweetwater Canal—flows to Port Said and to Suez at each end of its big companion, supplying these towns with their drinking water. The Suez Canal itself is a narrow high-banked waterway in the desert for the greater part of its course, while in the south it is simply a dredged channel through the shallow Bitter Lakes. The lakes themselves were a part of the Gulf of Suez within the historical period of Egypt, and it seems fairly well established

that a waterway was available from the Mediterranean to them, via the mouths of the Nile, some 3,000 years before the Christian era. Subsequently this waterway was choked, to be re-opened more than once by later rulers, but the Bitter Lake area was meanwhile silting up to its present isolated state, the cities which had formerly stood at the head of the gulf being stranded forty miles inland.

In the years 1854 and 1856 concessions for the construction of a direct canal between the two seas were obtained by Ferdinand de Lesseps from Said Pasha, whose name is commemorated by Port Said. On 17th November, 1869, in the reign of the Khedive Ismail, the canal was formally opened by the Empress Eugénie. The history of Egypt since then is the history of the Suez Canal. The original excavation was made by forced labour, an institution which had survived in Egypt from time immemorial until it was abolished by Lord Cromer, and it is literally true that a great part of the work was done with a hoe and a basket, the heavy *fass*, or hoe, being used to dig the earth, and the basket to carry the earth up to make the banks. The toll of human life was heavy. At the present day it is kept clear and deepened by means of powerful suction dredgers, and its banks are being lined along their whole length with stone revetments. The southern portion, through the wide expanse of the Bitter Lakes, is not without a beauty of its own, backed by the hills of Western Sinai, but in the north it is simply a ditch, which does not look large enough to contain the 11,000 ton liner passing along in charge of a pilot. Stopping places are provided at intervals, where one boat can tie up on meeting another, mail-steamers always taking precedence.

At either mouth of the Canal is a town which owes its existence solely to the Canal, Port Said in the north, and Suez in the south. Of the two, Suez is perhaps the more interesting, being less frequented by tourists. It is largely built upon "made" land, and in part of the Terre Pleine quarter the houses are on causeways forming four sides of a square,

with a pond of sea-water in its centre. Standing on the frontier of the Near East, Suez is distinctly non-Egyptian, and more resembles the Far East; domestic servants talk their master's language without being spoiled by doing so.

Port Said is a town with an appalling reputation, which it fully deserved at one time, when it was unsafe to go on shore after dark without companions and arms. With the introduction of electric search-light installations, enabling ships to traverse the narrow Canal by night as well as by day, its character improved rapidly, assisted by State action, and it is now a town with a past, reformed beyond the recognition of those who knew Port Said in the 'eighties. Like Charing Cross, it is one of the places where you must ultimately meet your friend if you wait long enough, and the new town which is developing along the seaward front to the west is no unpleasant place to wait in. The shops of Port Said, though designed primarily to fleece the passengers of passing ships, are full of good things from the East, and many of their owners are knowledgeable men who will elucidate the grades of workmanship in Japanese damascene, or mourn over the modern specimens of *cloisonnée*. The situation of Port Said does not encourage low prices, even to residents in Egypt, for the shopkeeper has only to hold on, and sooner or later the "fool in a hurry" will appear. The inhabitants, and the coinage also, are as various as they could possibly be, ships are always passing within a few score yards of the houses, and at night there is the picturesque inferno of coaling when from the great lighters in an endless stream, to the ship's bunkers and down again, by the glare of torchlights reflected in the water and by the sizzling electrics, run black devils of the pit, cursing.

The Gate of The East.

The view of Port Said from the sea is strange. The liner leaves her moorings, passes the last building on the shore, and goes out to sea alongside the long breakwater which guards the Canal mouth. At the landward end of this there

stands De Lessep's statue, with his extended arm pointing up the Canal. Clear of the breakwater, her course is turned to the west, and in a few minutes Port Said looks like a mirage, its houses rising from the sea. These sink until only the lighthouse tower is left, and the good traveller then orders a drink, half for himself, and half to empty overboard as a parting libation to the old Nile.

Homeward.

CHAPTER V

THE NILE IN HARNESS

" But he did it on the cheap and on the quiet,
And he's not allowed to forward any claim."
—*Pharaoh and the Sergeant.*

To an Egyptian Fellah who should come and settle in England this country would seem utterly devoid of administration. The offering of prayers for rain in the churches during a drought in summer would be to him a piece of fatalism, worse than any such folly which he himself had ever committed. The mere idea of depending upon the vagaries of rainfall would stamp us to his mind as being no better farmers than the nomad Bedouin, who raise their patches of barley along the northern coast of Africa from the scanty winter rains—which barley is, curiously enough, the best malting barley in the world.

From the other side of the case, the British farmer looks contemptuously at the primitive tools of the Egyptian, and pities the poor beggar who stands all day swinging buckets of water into a ditch to save his crops from extinction. For a drought in Egypt is not the gentle drought of England. When a crop dries up in Egypt, it dries thoroughly, and makes excellent fire-lighters. On an ordinary summer day, and that not in the hottest part of Egypt, the thermometer will be a little under 100° Fahrenheit, and the air may contain less than a fifth of its possible moisture content. A wet photographic negative can be used for printing-off within half an hour, and a leaf cut from a plant and dropped on the ground will scarcely live as long as that. When the author came back to live in England, after nine years in Egypt, the first season's struggles with his garden were marked by an abiding sense of amazement at the casual way in which plants in England could be uprooted and transplanted, thrown away

AN IRRIGATED FIELD

in a corner and brought back, without seeming any the worse for it. As for the idea of deliberately transplanting things two or three times, it was simply cruelty to vegetables. When we were compelled to transplant precious cotton plants in Egypt, we started them in flower-pots, and then planted the pot; even then they resented it.

Or take another example. A crop in England will use about 4 to 10 in. of rainfall out of the soil during the whole of its growing season. Ten inches of rainfall would merely supply the Egyptian cotton crop during August with the water which it dissipates in three weeks.

Agriculture in Egypt is thus not merely dependent upon water-supply, but upon an abundant water-supply, and practically every thimbleful of this water has to be brought to the land from the Nile by some artificial means, so as to give an average supply of about 20 tons of water per acre per day to every crop in the country.

Irrigation.

We have seen in previous chapters that the prosperity or collapse of Egypt depended on the condition in which her administration was able to maintain the irrigation works. When the canals would not carry water where it was needed, or when they carried too much when it was not needed, the country went to the dogs. In modern times this organisation of the water-supply needs to be far more elaborate than was formerly the case, and it is an uncanny sensation for the traveller who journeys luxuriously up the Nile on a river-liner through Nubia, meeting perhaps a sister ship to his own, looking like a toy steamer under the opposite bank, when it dawns on him that every single drop of this water on which he is floating and travelling will be used by men and plants and animals, or dried up by the sun, before ever it reaches the sea. It feels for the moment rather like an earthquake, and a silly fear that the bottom will fall out, or that the river will at least run dry, obsesses him for the moment. For during the summer in the modern Nile this is almost literally true;

its direct flow into the sea is frustrated, after it has tumbled and glided 4,000 miles to get there, and nothing but drainage water, already tainted with salt, escapes from the Delta margin.

The idea of irrigation by any means more elaborate than a watering-pot is almost as strange to dwellers in Great Britain as the idea of rain-cultivation would be to the Egyptian; in working practice it means that there is a ditch running beside every piece of land on which any vegetation is growing, from which, by cutting the bank, opening a small sluice, or pumping, water is allowed to flow on to the land in question. Every back garden, tennis lawn, or 1,000-acre estate has equally to be provided with such a ditch, or system of ditches, all in connection with the river.

The Chief Duty of the State.

When glancing through the History of Egypt we have seen how repeatedly the country has gone to ruin because the irrigation system was allowed to deteriorate, and how quickly the country again became prosperous when a strong ruler took the irrigation system in hand. The country was always prosperous, even under utterly unsympathetic rulers, so long as the irrigation system was maintained in good working order. The history of the Egyptians themselves, as apart from the history of their governors, is largely a history of the water-supply. It is therefore imperative to know something of the system by which Egypt obtains its water, because this system lies at the very foundation of the country's existence. If a hostile power were to obtain possession of the Sudan, and spitefully to divert the Nile, which is an engineering possibility, there would not be a living thing left in Egypt after six months of summer, plant or animal, except desert scrub and vermin.

Egypt was made by the Nile, and is at the mercy of the Nile; man has harnessed the Nile and brought it into subjection, but not entirely. As the years go by the control he exerts on the river will be more and more perfect, and a

time may come when Egypt will always be able to have the exact amount of water needed at any time by every plot of land in the country, though this is unlikely, for even the Nile has its limitations, and there is a big country upstream—the Sudan—which will have to be considered more and more as time goes on.

The reader who may be inclined to consider the subject of irrigation uninteresting should bear in mind this indestructible connection between Egypt and the river; moreover, the modern control of the Nile provides some of the finest engineering achievements yet performed, even as the control exerted by the Ancient Egyptians was prodigious in their time. Reduced to its essentials, irrigation is a simple subject. It is in the matter of details that it becomes complicated, calling for comprehensive knowledge and long foresight on the part of its exponents.

Some General Principles.

The casual visitor to Egypt who sees the country traversed by earthen dykes, by canals with earthen banks, by ditches of all sorts and sizes, deep and shallow, does not realise the intricacy of the detailed work they represent. They do not look neat, but rather the contrary; Egypt is a country which always looks untidy and unfinished, on account of the absence of the mantle of grass which in England quickly covers up deficiencies and the scars made by man. Water cannot be spared in Egypt to waste on weeds, even if it were possible to persuade water to soak in upon a sloping surface. But all these uninteresting banks of earth are carefully levelled and graded to a fall of so many inches per mile, or to remain dead level for miles at a time; the canals are designed to carry a certain amount of water at a certain pace. If the canals are too large, they will flow too slowly, and will therefore deposit silt from their water and choke themselves; also, they will cost more to build. If they are too small, either the land they serve will have to go short of water, or else the rate of flow of the water must be increased, when it will pick up

silt from the sides and floor of the canal, gradually spoiling the section and levels. There are losses of water to be considered, by simple evaporation, which varies with the section of the canal and its rate of flow, by seepage, and by waste. There are gains of water to be considered, by back-flow into the river or into the canal from the surrounding country when the canal or river is low. The water has to be followed underground, as well as on the surface; if too much accumulates there, the spring-level is raised, the useful air-filled soil-depth is diminished, and the crops suffer. The amount of water available in the river varies enormously between flood and low-stage, and the demands made by the crops are greatest in late summer and least in winter; these variations have all to be considered and evened up. All this is the barest outline, and it affects every field in Egypt. The water at certain periods of the year is doled out ton by ton, and the cultivator who takes water out of his allotted turn is committing a serious offence. If the irrigation officers fail in their calculations and organisation, some districts run short of water, see their crops dying through drought, and take water for them by force; broken heads follow, in battles raging between village and village; ultimately anarchy spreads over the whole country.

Training the River.—Far back in the dawn of Egyptian history the annual rise of the Nile flooded the land on either side of the river, turning it into a marsh which did not dry up in all places before the next flood came down a year later. In the jungles thus produced there would be patches of higher ground which would become sufficiently dry on the surface to be cultivated, but would still remain damp enough below the surface for the roots of the growing crop to flourish. But every overflow of the Nile into these jungles carried silt and mud with it, which the river had brought down from far up-stream, and had been unable to deposit permanently so long as it was flowing rapidly. The rate of flow could not

Once upon a Time.

slow down until the wider valley of Egypt was reached, and the river had spread out in the jungles. There its silt was dropped in the stagnant lakes thus formed, the heaviest particles falling first, and the lighter ones afterwards; this meant that the deposit was thickest near the banks, where the water first escaped from the direct current. In consequence of this behaviour the valley-floor took on a "camber" like a well-built roadway, with the river bed running along the highest part, and this construction has been retained to the present day. The same thing may be seen on a small scale in many valley-bottoms in other countries. The river did not remain in the same channel all through the ages, of course, but meandered about the valley-floor; whenever a flood happened to rise above the top of the high land along the river bank, the river would be likely to breach it, and having once done so, the river would find a steady downward path before it for some distance, down which it would tumble, making perhaps a new channel altogether for some miles, perhaps only an island, or merely enlarging an existing swamp. Even within the last two centuries the Nile has wandered right and left about the valley. There is a lily-pond in the middle of modern Cairo, in the Esbekia gardens, which is the last surviving fragment of the bed of the Nile as it ran in the time of the Memluks. The river still plays tricks, for the complicated course traced by its eddies and backwaters almost defies calculation. The wreck of a boat laden with stones will make an island, or the sinking of piers for a bridge over the river will make imperceptible alterations in the run of the eddies for miles up-stream, turning a backwater into the main channel, and—in one actual case—leaving the swing-span of the bridge stranded on a sand-bank, so that the waterway can only be kept clear by continual dredging.

One of the functions of an irrigation officer is to control these wanderings of the river, by force or by guile. If there is any likelihood of the flood over-topping the banks, he must

organise relays of watchmen each with a hundred yards of bank to guard, and with the means for signalling for help at the first sign of danger, so that assistance may be quickly concentrated. Earthen banks are treacherous, yet faithful; so long as they are designed correctly they never yield from pressure, but only from perforation by burrows, as in Holland, or when the water has flowed over them. A trickle of water which a child could arrest with a handful of earth, if left for five minutes, will become a raging torrent, and in half an hour will be a new river-bed. When the Nile is in high flood, these guards watch the river day and night.

Guarding the Banks.

Apart from thus compelling the river to stay within its proper channel by force applied soon enough, there are other methods of circumventing it. In places where there is any likelihood of a breach being effected, a false bank may be made on the land behind, in the form of a crescent, with its ends joined up to the real bank above and below the dangerous spot. Then, if the river succeeds in effecting a breach, it hurries madly through, only to make a pond between the two banks. Sometimes, breaches are anticipated from the undercutting of the bank at the outer side of a bend; usually it is impossible to prevent this by direct obstruction, so spurs of stone or earth, faced with wattle, are thrust out from the bank in some places carefully selected up-stream, giving the river just the little bias which is necessary to make it change its course further down. The more the river winds about, the greater the danger of such breaks, the larger the volume of slack water, and the greater the resistance offered to the seaward flow; consequently, at all times and at all seasons, little by little, by a spur-wall here, and a protecting stone revetment there, the irrigation officials coax and wheedle and delude their master into flowing along a straight, clear channel. In the process of "training" the river, land is often recovered from sandbanks and backwaters, as the river is compressed into a deep straight channel, instead of

wandering over a shallow crooked one, and the history of all Egypt is repeated on a small scale.

All this, however, is only a side-issue of irrigation work, though it is as old as Egypt. Probably in the very beginning the natives made little hurdles of stalks and bedded them in the soil around the edges of their island patches of crop, to keep the waves of the river from washing them away, just as the modern engineer uses maize-stalks to protect his banks from wave-action when the finances cannot run to the cost of a permanent stone wall. In a river so big as the Nile, waves can grow to quite a respectable size when the wind blows hard from the right quarter; people who have sailed round the Horn have been horribly sea-sick in a house-boat, even on the larger canals, and to cross the river in a small rowing-boat during a "khamseen" gale may be quite exciting.

Irrigation by Basins: The Old System.—The manner in which the Nile was made to serve the needs of the Egyptian is more or less peculiar to Egypt. At the present day it has been largely abandoned except in Upper Egypt, because this old method did not permit of the cultivation of summer crops on any large scale, and the present summer crops, —cotton especially—are so valuable as to be worth the extra trouble of the new system.

The old system is called "basin irrigation," because the country was cut up by huge banks of earth into level basins, into which the water was poured by the rise of the flood, until the soil was soaked. The water was then run off, the soil allowed to dry until seed could be sown upon it, and the crop from this seed—wheat, or flax, or clover perhaps—was grown without further watering, from the water accumulated in the soil. It sounds very simple, and essentially it is quite straightforward, but a system of basins can be laid out very well or very badly. Its chief merit is one which we do not understand even yet, in spite of its enormous antiquity, in that the

The Fertility of Egypt.

fertility of the soil is not diminished, but year in and year out remains practically constant at a fairly high value, provided that clover is grown every second year. For a long while it was thought that the annual accession of fertility, making good the soil-constituents lost in the previous crop, was due to the layer of Nile mud which settles in the basin, to the thickness of about 4 in. in a century. On the face of the problem, this is true; if the basin-system is badly designed, so that it receives clear water from which the sediment has already been deposited, the fertility of its soil deteriorates; but on the other hand we now know that the mud of the "red water" of the flood is deficient in exactly the same constituent—nitrogen—as is deficient in the soils of the basins. The thing is a puzzle, and a puzzle which has a history of sixty centuries should be worth a little trouble to solve. The probable course of events is that certain bacteria flourish in the ooze, taking nitrogen from the air, and that these in their turn supply nitrogen to other low forms of plant life, green scum, on which little worms of various kinds browse happily, and then when the soil dries up these all decompose, leaving enough extra nitrogen in the soil to provide another crop as good as that of the previous year. This, however, is mere speculation as yet; the fact remains, that by adopting basin irrigation, with a plentiful supply of "red water" every year, and its consequent deposit in the basins, and by growing clover, the fertility of Egyptian soil has remained undiminished, with the employment of little or no manure, for thousands of years. Leaving this subject for a while, we will now consider why basin irrigation was adopted in Egypt, and what possible alternatives there are.

So far as Ancient Egypt was concerned, there was practically no alternative on a grand scale. For minor crops grown during the summer, every drop of water had to be lifted by hand or by animals, and although large areas can be cultivated in this way, the labour is such as can only be practised in times of

Nile and Tigris.

certain peace, when the cultivator will not be called or driven away from his land at all till the crop is ripe. The basin system was practicable in Egypt because the Nile rises in the late summer, so that by the time the basins have been dried and sown the cooler winter is at hand, and the seedling plants will not suffer from scorching sun again till the following spring, by which time their roots are deep down. If we now turn to the other great river-system which also cradled an ancient civilisation—the Tigro-Euphrates valley—we find an entirely opposite set of natural phenomena, and consequently a different evolution of the irrigation system ; in Mesopotamia the flood comes down in the spring, so that seed sown on basins would be germinating just as the parching heat of the summer was beginning ; the irrigation arrangements had therefore to be such as would provide a free supply of water during the summer to save the crops, and sufficient in the winter to plant them. The Nile evolved Basin Irrigation at the hands of the Egyptians, the Tigris and Euphrates evolved Perennial Irrigation, which has latterly been adopted by Egypt, and worked up by British irrigation officers into the finest irrigation system in the world, though India is running it close in the Punjab.

Various Kinds of Flood.

The old Basin System of irrigation was facilitated by the cambered form of the valley-floor. If a cut was made in the high land near the river, the water of the flood would flow out into basins lying behind it. The irrigation of the higher lands near the river was a more difficult matter. Supposing the Nile flood to be uncontrolled it would behave in various ways, depending on the height to which it rose. A low flood could not escape from the river channel, a moderate flood would flow over the valley floor as a shallow sheet of water, while a gigantic flood might fill the whole width of the valley up to its own level. The system of control had to develop so as to meet all these possibilities.

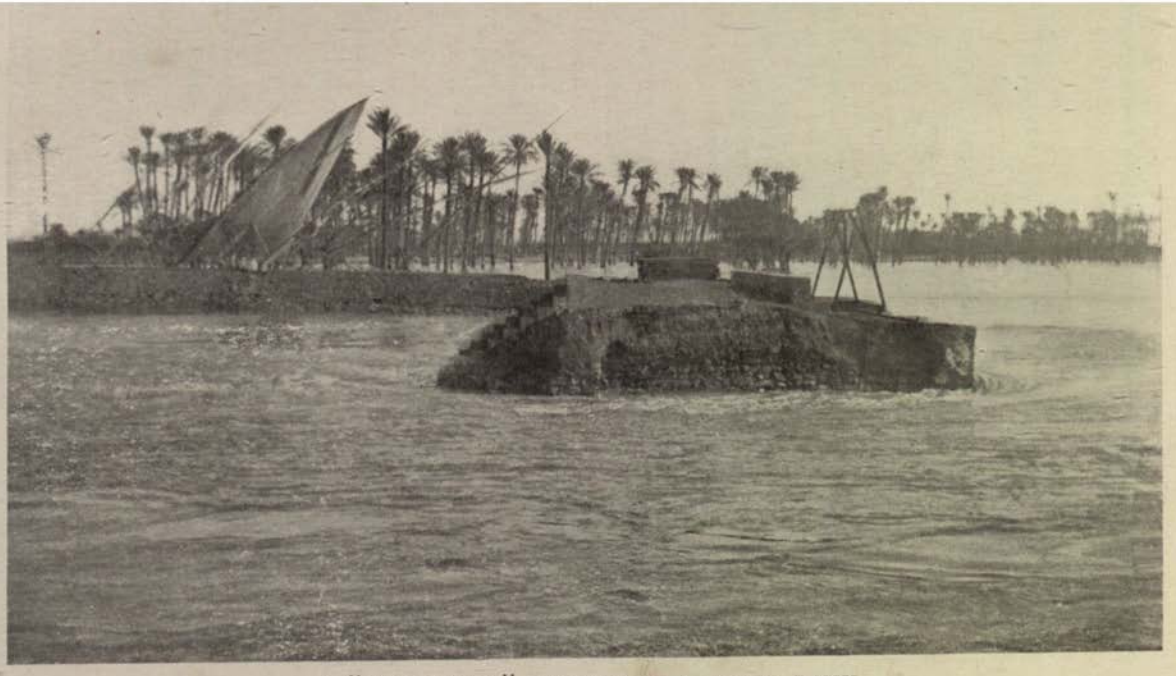
A very high flood was practically uncontrollable in the old

days, until Lake Moeris—the modern Fayoum province—was utilised as a regulator under the Old Kingdom. This cup-shaped valley in the desert was connected with the Nile by a channel leading into it, and another leading out towards the Delta. It had an area of about 700 square miles, and the level of the lake probably varied some 10 to 15 ft., thus providing a very large storage capacity. When the flood was dangerous, the excess of water could be chopped off it by allowing it to fill the lake, and when the flood went down the lake was allowed to empty again into the river. Later on, in Ptolemaic times, it appears to have been used habitually for storage, as well as for regulation.

A moderate flood was the easiest to deal with. The water was merely steered from basin to basin, and when all its mud had been deposited, clear water was allowed to flow back into the river, the chain of successive basins being arranged in steps which fell less rapidly than the fall of the river bed, so that, although the uppermost basin was below the flood-level of the river, the last one of the chain (going downstream beside the river) was above the level of the falling flood.

Poor floods required a further development of this principle of differential gradients, as also did the high land by the river-banks. To get the water of an ordinary flood on to this high land, or to get the water of a poor flood out of the river and on to the land at all, it was necessary to dig canals which took off from the river a long distance upstream of the land which had to be watered. The whole system depended on the utilisation of differences between the gradient of the river and the gradient of the country-side, with the slow creation of such differences by deliberate silting-up and scouring, where they did not exist.

The basin system thus developed from the simplest expedients; making cuts in the high land by the bank to let the water on to the low land further away, building banks to obstruct the water, ponding it up high enough to overflow in some other direction, and making protective banks on the



A " WASH-OUT " BREACH IN A BASIN BANK

river. From these expedients there grew the system of high and low basins in chains, inundation canals which are dry in the summer but guide the flood water into the basins, regulating works everywhere, classified as head-sluices at the entrance to the canals, basin-sluices admitting water from the canal to the basin or from one basin to another along a chain, and escape-sluices at the end of the chain to regulate the escape of the clear water back into the river. In all these the question of how to avoid erosion and silting has to be considered, for although the fine mud is wanted on the basins, the coarse silt is not. A more modern appliance is the "syphon," so-called, which is a water subway, passing one canal under another, so that a small canal to feed the high-lying chain of basins along the river bank can be taken off from the river a long distance up-stream of the principal canal which feeds the low-lying land behind, under which main canal it passes by a syphon.

Constructional Works.

As the system is now worked, the head sluices of the flood canals are usually opened about August 10th; the maximum depth of deposit possible is obtained by passing as much water over the basins as can be obtained, and regulating the depth of water by means of the outflow sluices from each basin. After about fifty days all the basins should be under water, forming shallow lakes upon which boats can move from village to village, and by the first week in October they should be ready to discharge. The sluices at the head of the canal are then shut, the discharge of the upper basins is passed on to the lower ones to complete the inundation of any high patches of ground, and finally the last basin of every chain is emptied back into the river. Even then the work of the water is not completed.

Method of Irrigating.

Matters are usually so arranged that all the basins of Upper Egypt are emptied simultaneously, and as quickly as possible, the escape sluices being designed to pass a great

volume of water under a small head. This produces a wave in the river—an artificial flood—by which any high-lying islands not already covered by the flood can be reached. Then the rest of the water goes on to the Delta, to help in growing the winter crops there under perennial irrigation.

Perennial Irrigation: The Assuan Dam, and After.—The object of Perennial Irrigation, which is now the system employed throughout the greater part of Egypt, is to provide a continual supply of water throughout the year. This means that two crops are grown on the same land annually; the Egyptian winter is warm enough to grow wheat, barley, clover, beans, and other temperate-climate crops, which can be taken off the land by May, leaving it ready for a sowing of maize, or earlier, in which case cotton is planted.

Perennial irrigation can be practised on the banks of the river all the year round, without other provision than a permission from the Government to take water, and an appliance for lifting the permitted amount. This is as old as Egypt. It can also be effected by sinking wells in basin land and lifting water from them, another old practice; but the modern conception of perennial irrigation is a State-controlled system of canals of all grades, with appliances for filling them with water from the river, even when the latter is at its lowest; storage devices for maintaining a sufficient supply at low-stage; and regulation for the purpose of ensuring that all parts of the country, however far from the river itself, shall have water available either continuously, or at regular intervals publicly announced beforehand.

Summer Water.

The difficulty about perennial irrigation on the Nile is that the river is very low in summer when the heat is greatest, although the crops are not actually using quite as much water as they do when the flood is "arriving," simply because their evaporating leaf-surface is not fully developed. The "summer-supply" of water has therefore to be carefully conserved to carry the summer crops through without injury

till abundant water is available. Even at the present day there is not enough water to go round, and since cotton is the most valuable crop in Egypt, and the saleable product on which the country's income depends almost exclusively, the cotton crop gets first choice. If the summer supply is very low, the minor crop of rice, grown in the Northern Delta, may be prohibited entirely, since it requires some 60 tons of water per acre per day as against 20 to 30 for cotton. The third important summer crop is maize, and this has to wait its turn, being quick-maturing; a decree is issued yearly, forbidding the planting of maize, and when the flood is in sight this decree is taken off, still leaving ample time to grow a crop. Before considering the way in which this water is used, it is therefore advisable to study briefly the way in which the summer water is obtained, and the methods by which the irrigation engineers are "flattening out" the Nile flood, holding back the excess of water which formerly ran to waste in the sea during the autumn, and carrying it over to the following spring and summer.

We have seen that the flood is chiefly caused by rains in Abyssinia, which bring the Blue Nile down in spate, while the contribution of the White Nile from the Great Lakes of Central Africa is relatively insignificant. On the other hand, the contribution of the Blue Nile, except in flood, is less than that of the White Nile, which has a more uniform flow all the year round. Estates on the White Nile would thus take naturally to perennial irrigation; those on the Blue Nile to basin irrigation.

A few figures must be given here to indicate the nature and magnitude of the problem. The natural average summer discharge of the Nile entering Egypt is about 24,000,000 cubic metres (or practically, tons) of water per day. The total area capable of using perennial irrigation in Egypt is about 7,000,000 acres, which, with the very moderate average allowance of 12 tons of water per acre per day, would require

Amounts of Water Available.

84,000,000 tons of water daily. The difference between 84 and 24 is 60; thus, in order to grow a crop every summer on all the cultivable land in Egypt, the Nile discharge during the summer months would have to be augmented by 60,000,000 tons of water daily, or nearly quadrupled from its natural state.

Further, in doing this it would have to be arranged so that even a low flood or a late flood would not upset calculations; a very wide margin of safety has to be provided. Otherwise there would be a serious risk of losing the time and labour spent on the area planted. Thus the area of summer crops grown is really based on the minimum probable water-supply.

The first step taken was the essentially simple, but colossal one, of holding back a part of the flood, and pocketing it for use in the following summer. This was effected by building the Assuan Dam across the valley at the First Cataract. The choice of the site was due to the fact that the river has here cut its way through a dyke of granitic rock which obstructed its bed; the dam is bonded at both ends, and below, into this granite mass. In the first instance it was not built to the height originally proposed by Sir William Willcocks, because of the damage to antiquities on the island of Philae, and in other places up-stream. Ultimately, however, when the threatened area had been carefully surveyed by archaeologists, the dam was raised to a height of 143 ft. above the valley floor, holding up the level of the river behind it nearly to the frontier of the Sudan, to the extent of 2,300,000,000 tons of water over and above the normal content of the river bed; before raising, it had only held the trifle of 1,000,000,000 tons.

Storage.

These enormous quantities of water do not by any means meet the full demands of Egypt. We saw that she needed ideally an additional summer supply of 60,000,000 tons daily, and this would be required for about 100 days in each summer, so that 6,000,000,000 tons is required altogether,

of which even the raised dam at Assuan stores only a third part. At the same time, the possession of this dam has made an enormous difference to the risks of summer cultivation in Egypt, and with the worst Nile imaginable, the crops as grown under the existing *régime* can be safely carried through. Before discussing the other possible ways by which the Nile supply may ultimately be augmented and redistributed, it will be appropriate to finish describing the Assuan Dam, as it now stands.

The Assuan Dam.

The traveller coming down-stream from the Sudan in February finds the rocky valley looking rather peculiar, with palm-trees growing in the water at intervals along the foreshore, and the land—such as it is—in curiously close contact with the water. This is due to the fact that the maximum level of the river, as headed up by the dam, is new, and the foreshore has not had time to adapt itself to the new level; the country has in fact been drowned. Before the dam was built, and again before it was raised higher, all the Nubian owners of property which lay within the zone to be flooded were duly compensated by the Egyptian Government. Some miles above Assuan itself the river widens out into a lake about a mile wide, with rocky islands in it, the tops of the temples of Philae showing on one of them. A little further along, and this lake ends suddenly against a white line ruled across it. On the other side of the white line, far below and beyond, over the *edge* of the placid waters of the lake, the valley continues as a jumbled mass of parti-coloured rocks, with water trickling between them. It is not surprising that, when the dam was first built, imaginative persons were filled with terror lest it should collapse.

Arrived at the Dam itself, the thin white line turns out to be the top of a masonry cliff, a worthy peer of the Pyramids even in size, but incomparably more useful. The clean severity of its outline, sweeping outward from coping to foundation, gives it grace in spite of its enormous mass.

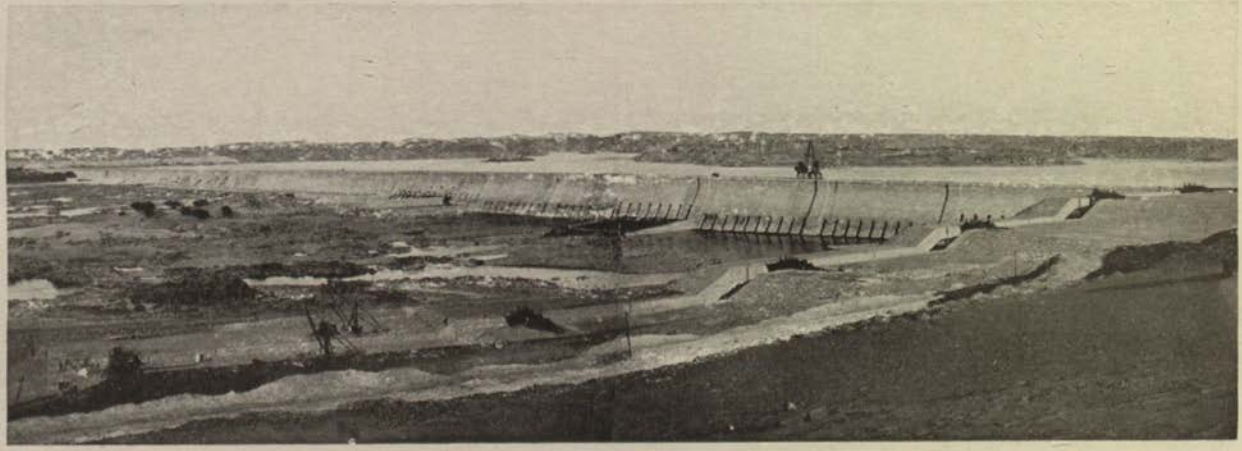
It is a mile and a quarter long from end to end, and higher than most church towers.

In the design of this colossal work, apart from the provision of ample strength, the chief requisite was to prevent silting.

Regulation of the Nile.

There are dams in existence which have silted up the river above them until the dam itself is nothing more than a picturesque waterfall. To avoid this the Assuan Dam was pierced with sluices near the foot, and all the water which passes it has to go through these sluices, which are so designed that they will pass the water of an extremely large flood (which might amount to 14,000 tons of water a second), without heading the water behind them more than a dozen feet. These sluices are 180 in number, each being over 6 ft. wide, and the larger ones are 24 ft. in height. When the dam has been shut down, and only a single group of sluices is open to pass the low-stage supply, the roar of the water is audible for a mile or two. When every one of the sluices is spouting, speech is at a disadvantage. Regulation of the discharge is effected through each sluice independently by means of a huge sliding door, hoisted and lowered by chains running through a passage-way in the masonry up to the wide road which runs along the top of the dam. A hoisting winch runs on a railway up and down this road, to handle whatever door it may be necessary to move. The amount discharged can thus be regulated with the greatest nicety, from a trivial leakage past the gates when the dam is holding up its full 90-ft. head of water, to the full gush at the top of the flood. Locks on the western bank provide for the transit of the largest Nile steamers, passing them up or down five steps of about 20 ft. each in half an hour.

The use which is made of the dam as an irrigation appliance is roughly as follows. When the flood is coming down, the sluices are opened wide, to provide as little obstruction to it as possible, and they remain open until the end of October. They are then gradually closed in groups until by



THE CLIFF OF MASONRY AT ASSUAN

January the reservoir is full. It will be observed that the amount of water thus subtracted is only a small part of the whole flood. The reservoir then remains full during February and March, the sluices being adjusted so as to pass away the same amount which the river is continuing to bring in from the Sudan. During April, May, and June, as the incoming supply diminishes, and as the demand in Egypt increases with the advent of summer, the sluices are opened, and the stored water is added to the normal discharge. When the next flood reaches Assuan it finds the reservoir empty, the date of its arrival having been notified by telegraph a week or so in advance, from the readings of river-gauges far up the Blue Nile on the way to Abyssinia. When the Dam was first employed, it accidentally did a great deal of harm, because the water was held back too long and then thrown out in front of the flood, making the flood unduly early. Consequently, one of the duties of the officials in charge of the dam is now to see that they do not get caught with a big surplus of unused water to be disposed of, and the need for accurate long-distance forecasting of the Nile flood is therefore more urgent.

Other Dams.

The various ways in which a bigger summer supply of water might be assured to Egypt illustrate almost all the possible ways of handling a river. The Assuan Dam stores flood-water by direct subtraction and sheer strength, but it does not store as much as the country could ultimately use. Also, there is the ever-present risk of an abnormally big flood, for which a safety-valve is needed.

The most obvious suggestion is to continue building dams like that at Assuan, higher and higher up the river, but there are serious objections to this. Apart from the difficulty of giving the amount of water needed more than 1,000 miles away at any given moment, when that water has to be dispatched on its long journey a week or so beforehand, there is the great objection that no other place between Assuan and

Khartoum provides safe foundation for these colossal structures. They cannot be built except on, and into, solid rock, and such rock must also be practically impervious to water. The Nubian sandstone is highly pervious, so that a dam bedded across the valley with its footing in sandstone would ooze literally like a sieve; the harder rocks to which the cataracts above Assuan are due, are comparatively soft and rotten in patches, and therefore unsuitable for foundations.

We have to travel further afield, beyond Khartoum, before a site for a new dam can be found, and the construction of such a dam on the White Nile was near to being put in hand when the European War broke out in 1914. There is another dam in course of construction at Wad Medani on the Blue Nile, though it is not primarily intended as a "dam," but as a "barrage" for irrigating the Gezira, a very definite distinction which shall be noticed later.

Lake Moeris.

Another storage proposal is that the old Lake Moeris should be resuscitated, though not by flooding out the reclaimed bed of Lake Moeris itself, which is now the fertile Fayoum province, but by utilising a smaller depression in the desert near by, called the Wadi Rayan. This would be used in much the same way as Moeris was used, with inflow and outflow regulation. The project involves a number of unknown factors, however; Wadi Rayan might not be water-tight, but it is by no means certain that it will not be adopted ultimately, if only as a safety-valve for a big flood. At a certain point in Egypt's economic development it will be worth while to spend large sums of money on insurance projects against even remote risks.

The Great Lakes.

Apart from direct transference of water from flood to low-stage by storage, there are projects for increasing the summer supply directly, by improving the river-channel. Intermediate between the two methods is a proposal to put a low dam across the outflow of the Albert Nyanza, which receives the waters

of the Albert Edward Lake as well as those of the great Victoria Nyanza and so gives rise to the White Nile. The area of even the Albert Nyanza is so enormous—nearly 2,000 square miles—that a dam only a few feet high would store a great volume of water, which could be released in the spring on its 4,000-mile journey to augment the summer supply in Egypt.

This alone would not be of much use, since only a fraction of the water which leaves the Great Lakes ever passes Khartoum. For a distance of about 500 miles the White Nile flows through a flat swamp-land, the "sudd" region; in these marshes of water-hyacinth and papyrus it spreads out and is evaporated. Within recent times the course of the river through the "sudd" has been entirely obliterated by floating masses of vegetation coming adrift and fouling one another in the channel, and one of the first works to be undertaken on the re-conquest of the Sudan was the clearing of the river channel through the "sudd," so that the waterway might be used for transit and transport. In so doing, the resistance to the flow of the river was lessened, and the discharge of the White Nile was improved at Khartoum, where it joined the Blue Nile. This effected a direct improvement in the summer supply of Egypt, which depends mainly on the White Nile discharge.

The Sudd.

Even when the channel is thus kept clear, there is still a great loss of water; roughly, half the available flow is dissipated in the Sudd. It has therefore been proposed to take advantage of the peculiar shape of the Sudd region by avoiding it altogether. The entrance and exit of it are only 150 miles apart as the crow flies, though the river itself makes a 500-mile bend between these two points. A straight canal cut along this 150 miles, with regulating works at its head, would enable all the flow to be turned through it in low-stage, while at times, when ample water was available, the canal would be cut off and the Sudd used, as now, to get rid of the surplus by evaporation.

This sketch gives an outline of the objects and possible methods of controlling the Nile. It will be years before some of these projects are carried out, if ever. For the moment Egypt is well provided with summer water, but further extensions of the Nile-control must inevitably be made. The subject is fascinating to the layman, and to the expert also. Not less impressive than the cliff of masonry at Assuan is the idea of a lone white man sitting in the heart of Africa, ordering machines to move sluices in accordance with telegraphic instructions flashed up from headquarters 4,000 miles down-stream, and thus setting free water which, more than a month later, will reach its destination on the land of some peasant who would otherwise have lost his crop.

Romance.

Perennial Irrigation: The Canals.—The simpler appliances for lifting water by hand or animal-power may be left until we examine the tools with which the Egyptian works. The next step is to see how the water-supply ensured by these great regulating works can be distributed to every corner of the country.

Some of the factors which have to be taken into account when a net-work of canals is being designed have already been mentioned. When this network has to be based on existing canals, often badly designed, or converted from old river-channels, the blessed art of compromise has to rise to high levels. Such a legacy was left to the British irrigation engineers in Egypt by their predecessors under Mohammed Ali; the conversion of the Delta in his time to perennial irrigation had been effected with haste, and with some blunders. It should not be gathered that the work of the British has been faultless, but even an Anglo-Egyptian irrigation official is human. The problem is simple in its essentials; main canals have to be led off from the river, branching into branch canals, and these into still smaller distributaries; usually the first two classes are primarily intended for the movement of water,

A Network.

and only incidentally is water taken from them to supply the adjacent fields, which are properly provided for by the distributaries from some other set of canals. The distributaries, as their name implies, have sluices in their banks, which can be opened to fill the ditches which run between the fields ; permission to open these sluices, or to fill the ditches by a water-lifting appliance, being accorded at stated times. Lastly, these ditches, running full of water a few inches above the level of the field, can have their banks broken at intervals, so that the water may flow into furrows on the field itself, and thus be led to the roots of every plant. The preparation of these miniature canals, and basins or furrows, is part of the normal cultivation of every field in Egypt.

The country being provided with such a network of canals, correctly designed to take advantage of the natural slopes of land—Egypt is not perfectly flat, although it looks it—carrying sufficient water, but not too much, neither silting up nor scouring away, the next question is how to get the water into them.

Free-flow Irrigation.

The simplest plan would be to make all the canals like inverted tributaries of the river, running below the level of the soil-surface, so that everybody could have water for the trouble of lifting it. The disadvantage of this arrangement is the enormous total of labour spent by the inhabitants in merely lifting water. The *shadoof*, worked by one man at a time, in relays, could lift about 100 tons of water a day ; in actual practice this means that one *shadoof* will supply about two acres at most with the water it requires. An ox or buffalo on a water-wheel will keep about eight acres provided with the necessary water, again working in relays. But, since water will flow downhill without assistance, it is obviously more economical for the State to centralise the work of water-lifting, and run the canals at a higher altitude, above the country-level, so that the cultivator has merely to open a path for the water to flow down upon his land. In actual

practice this device of "free-flow" irrigation is not quite perfect; the fact that the canals are running at a high level means a bigger head of water on any porous spots in the bed or sides of the canals, with consequently greater seepage, and this seepage water returns to the surface by the side of the canal, washing up salt in solution from the soil, concentrating the salt by its evaporation on the surface, and so making a sterile patch of land. The same additional liability to seepage also helps to raise the spring-level, and so diminish the depths of soil available, and this has to be counteracted by increased drainage. Lastly, the native is prone to use too much water, or to leave a channel running while he goes off for a sleep or a meal; the excessive use of water on the crops is dying a natural death, however, the tendency being a survival from the old days when summer water was a thing to be sought diligently, but rarely to be obtained.

Nevertheless, although free-flow irrigation has its defects, it has major advantages, and the system now adopted in Egypt is one of free flow, with modifications to meet special cases. The next question relates to the manner in which the water is to be forced to run above country-level.

Raising the Water.

The method used for the Basin land of Upper Egypt is, as we have seen, to take the feeder canal from the river a long way upstream, designing it to fall less rapidly than the river-gradient, so that it ultimately comes above country-level. In land under perennial irrigation, growing crops worth more than twice as much as those grown in basins, the method becomes too costly; its working expenses are small, but it necessitates the sacrifice of a long strip of land which might be bearing crops. Means have therefore to be devised for raising the water more quickly, in a shorter distance, and building no greater length of canal than is absolutely necessary.

One way of achieving this would be to place pumps at the head of each main canal, and lift water into it. It was very nearly adopted in Egypt, and it has its advantages, but it is

expensive, and suffers from the disability of being dependent upon a supply of fuel. Since Egypt is not a coal-producing country, her system of perennial irrigation might be brought to a standstill in war-time, were it dependent on pumping machinery. The method has been adopted for special cases, one of the most remarkable of these being the Kom Ombo estate in Upper Egypt, about twenty miles below Assuan. A wide flat valley there runs eastward into the desert, for about twenty miles depth, and of similar width at its mouth. As a valley it belongs to a geological stage in the Nile's story, far earlier than human history, and its level is consequently well above that of the modern river. At the beginning of this century it was a howling desert, bare of any vegetation, with a daily shade temperature of 115°F. as a regular thing for six months of the summer, and it was one of the most unpleasant stretches of the railway journey to Assuan. There was always a glimmer of mirage over it, and whirling dust-devils of all sizes stalked up and down its flat expanse. Then a company was formed for the audacious project of bringing it under cultivation, though every drop of water had to be lifted not less than 35 ft. at any time, or as much as 65 ft. at low stage, and there were 20,000 acres to be watered. Many unforeseen difficulties were encountered, but the project has ultimately succeeded, and in the place of scorching sand there is now a wide expanse of green fields, centred round a town with its own sugar factory, which is fed entirely by the produce of the erstwhile desert. Three great pumps of 1,500 horse-power each were established on the river bank, each one capable of discharging a ton of water a second; the delivery-pipes of boiler-plating from the pumps to the main canal were large enough for a horse to be led through them; the main canal had to be brought towards the pumping station on a high embankment, and its bed was therefore built of steel for half a mile till the level ground at the back was reached. The actual reclamation work was suggestive of giants playing at mud-pies.

Watering the Desert.

The origin of the "barrage" method for forcing the water into the high-level canals, in place of pumping it, is due in Egypt to the French engineers under Mohammed Ali. The first barrage which they built was a failure, mainly through scamped and hasty execution of the work, for the design was good. The method itself is as old as irrigation; if a delivery ditch has not enough water in it, and if the next man down the ditch raises no objection, the cultivator dams the ditch with earth until the water has ponded up high enough to overflow into his field-channels. Substitute the Nile itself for the ditch, and a permanent masonry structure a mile long, pierced with sluices, for the heap of earth, and the result is a Nile Barrage.

Barrages.

The function of a barrage is entirely different from that of a dam, though both are masonry obstructions thrown across the river's course. The dam is for storage, and the rise of water-level behind it is an unpleasant necessity; the barrage is not for storage, and is constructed solely for the purpose of raising the water-level behind it. Incidentally a barrage is usually a much lighter and lower structure than a dam.

The first barrage on the Nile, which Abbas I wanted to build with stone from the Pyramids, was placed at the southern apex of the Delta, where it headed up the river into three great canals which start from this fork in the river and feed the whole of the Delta itself. Other barrages have recently been built at Assiut and Esna in Upper Egypt, and at Zifta, on the eastern branch of the Nile in the Delta. We saw that there were certain difficulties in the use of high-level canals for the purpose of getting free-flow irrigation; the same objections apply on a larger scale to the use of barrages for filling these canals, since they increase the amount of seepage from the river itself, as well as from the canals. Their employment has led to various agricultural troubles from this cause, which are now being remedied by more skilful use of them, but their advantages are enormous,

as may be gathered from the fact that the Delta barrage costs only £10,000 a year for maintenance; whereas, if the pumping project had been adopted in 1883, the cost would have been £250,000 annually even at that time, and very much greater nowadays.

The reason for considering the pumping method seriously in 1883 was the useless condition of the first barrage. It had been begun in 1843, under Mougel Bey, and when a small head of water was put on it by shutting down the sluice-gates in 1863 and 1867, it started to crack. The laying of the foundations had been badly performed, and waterways opened beneath them, carrying off the sand. It should be understood that all these regulating works in the valley of the Nile have "floating" foundations; there is no rock to which they can be bonded as at Assuan, and they simply rest on the silt and clay and gravel of the valley floor. The foundation is therefore a great apron of masonry. In the original design of the Delta barrage this apron was scarcely wide enough, apart from its bad construction; when the British irrigation engineers decided to attempt the repair of the barrage, the width of this apron was increased upstream to 238 ft., from the original width of only half that amount, and the flaws were all made good. The work was extremely tricky, for, besides being a very big task, it was full of petty details; every spring of water oozing through the foundations—and there were hundreds of such springs—had to be trapped separately and led away or held fast in pipes until the new masonry could be completed round it, and the spring finally choked with cement grouting. As the barrage was thus restored it held up increasing heads of water, ultimately exceeding the original purpose of the designer. Of recent years it has been enabled to hold up still larger heads, to the extent of 20 ft., by building weirs downstream; these weirs are intended simply to make a pond below the barrage itself, thus reducing the difference of water-level between its up and downstream sides,

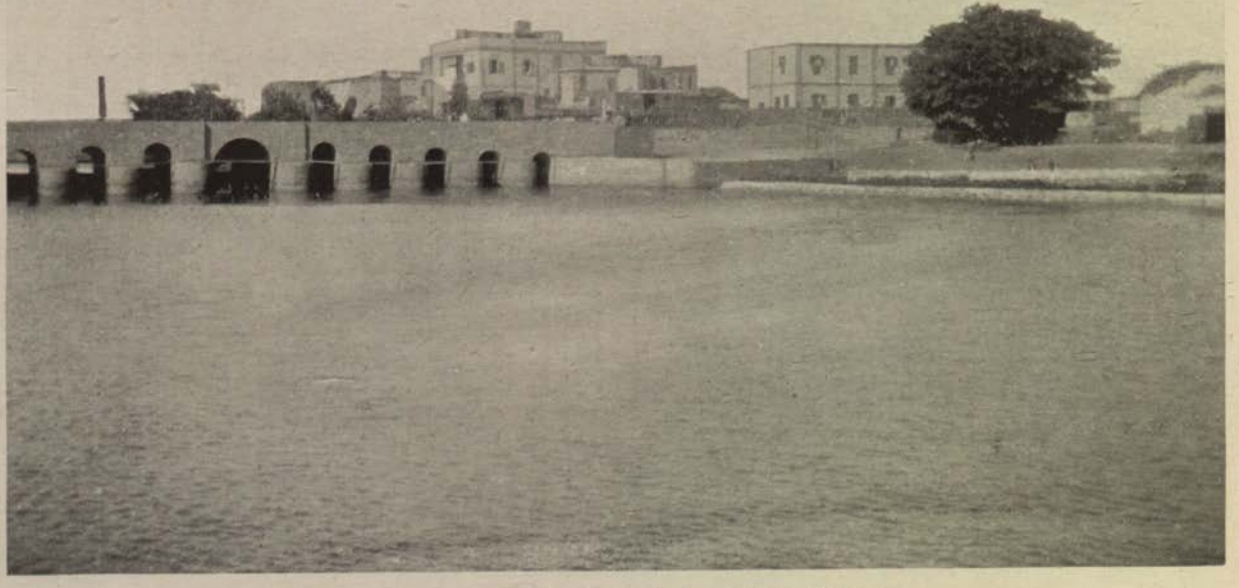
The Delta Barrage.

and so easing the strain on it. The construction of these particular weirs was of interest, as they were simply poured into place; great wooden box-moulds, each half the size of a two-storey cottage, were held in position across the river and filled with cement grouting under water; the grouting set firm, the sides of the mould were removed, and there was the enormous mass of solid stone in position. This method of building through a funnel has been used extensively by the Egyptian irrigation engineers.

Minor Works.

On all canals there are endless engineering works to be performed, often under most difficult conditions. The lot of the engineers who find a quicksand at a point where foundations are needed is by no means a happy one, and many ingenious devices have been evolved to meet such difficulties. All such works require continuous care and watching, even when completed, lest something should go wrong with them. A "syphon" passage of one canal under another may literally blow up, if the intermediate soil is disturbed; or a spring may find its way under the apron of a foundation, and a very few minutes will suffice to excavate a huge hole once a clear channel is opened for it in sand; the masonry is deprived of its support, cracks, and collapses, sometimes vanishing altogether beneath the water. Besides regulators to control the level and discharge of every canal, ranging from works comparable to the Nile barrages down to 3-in. pipes with a sliding door which lead into the field-channels, there are weirs and locks, bridges and aqueducts and syphons, for the irrigation officers to construct and maintain.

Usually constructional work is further hampered by having to be effected without interference with the normal working of the canal system. One device employed for the construction of "syphons" might be mentioned. A syphon, as we have seen, is a tunnel for carrying water under another waterway. The straighttorward way of making one would be to empty the upper canal and dig a trough for the syphon across it



REGULATING WORKS ON A DELTA CANAL

at the required depth, build the syphon tunnel in the trough, join it up to its own canal or drain, and finally restore the banks of the upper canal. Another way would be to bore a tunnel in the shifting sand beneath the upper canal; this would not interfere with the water-flow above, but it would necessitate elaborate appliances. The method actually employed is to build the syphon tube, close up its ends, float it into position across the canal, and then sink it by letting the air out; the canal has previously been widened temporarily by adding two crescent-shaped false banks on either side, and by dredging a trough for the tube to lie in; when the tube is in position, the old banks are replaced over the tube, the false banks are removed, and the ends of the tube can then be got at in the dry by simply digging for them, after which they are connected to their own waterway, and the job is finished.

Perennial Irrigation: Drainage.—All that has been considered so far is only the "supply" part of the work of an irrigation service. There is another task of equal importance, though less obvious, in the removal of drainage water. The crops in Egypt need large quantities of water, but this water is useless in the soil unless it is mixed with air, so that the roots of the plants can breathe. The idea of a root "breathing" sounds rather odd, but it is exactly as common, and as necessary to the plant, as our own breathing is to us. There are certain plants, such as rice, which are constructed so that they can "root-breathe" when the soil is saturated with water, but most plants cannot. Consequently, if drainage is not equal to carrying away the unused water put on the land—an excess has always to be put on to keep the surface moist—the spring-level or water-table will rise, and deep-rooted crops like cotton suffer from literal asphyxiation of their roots when this rise comes within some seven feet of the surface. One of the virtues of the old basin system was that it needed no drainage provisions; as the flood ebbed, and the level of the river diminished, the water-table drained back into

Suffocated Roots.

the river, and the soil dried up. Nowadays, when water is being given the land through most of the year, so that the soil is never allowed to dry for very long at a time, and the river and canals are usually running full of water at a high level, the old natural drainage is no longer sufficient and the drainage water has to be removed artificially.

The drainage system to meet the new conditions is now under development in Egypt; its general principles are the converse of those of irrigation proper. The drains are run along the low land between the canals, well below the surface, and the water from them flows into collectors which correspond to distributaries, and then into main drains, from which it passes into the sea. Drainage water is useless for irrigation as a rule, because of the salt which it has washed out of the soil on its slow journey among the soil particles. The method of handling drainage water in Egypt has not yet reached a conventional stage; some experts believe in big systems collecting by gravity into a few main drains, each with a gigantic pump at its tail to throw the collected water into the sea; others consider that drainage by gravity in small zones, each with an electrically-driven pump in its centre, throwing the water into high-level channels flowing to the sea by gravity, would be more suitable to the needs of the country. Nor is the method of actually draining the individual field settled upon; some believe that the English system of buried piping is worthy of the cost of adoption; most people adhere to the Egyptian practice of opening ditches in the field for a while, in spite of the loss of land surface involved, and closing them up again when the soil is sweetened.

Methods.

There are, as a matter of fact, two entirely different reasons for drainage. The primary one in Egypt used to be for the removal of salt from the surface soil by washing, especially in the poor and barren lands along the northern margin of the Delta. Concurrently with this there is now the modern set of

Reasons.

conditions to face, with its call for control of the water-table level. Ultimately the system will organise itself to deal with drainage from both points of view.

The salt problem is one which the irrigation projects have always to face. Egyptian soils always contain a small amount of common salt, and sometimes other injurious salts also. Wherever soil-water is evaporating on the surface of the soil, this salt is being concentrated, and the surface of the soil becomes powdery to look at, and ultimately incapable of permitting the germination of seed. In this way, aided by an actual fall in the soil level, land which was cultivable and rich in Roman times has now become a barren waste fringing the north of the Delta, the reclamation of which by drainage has always confronted the irrigation service of Egypt; it is now being taken in hand, and should ultimately add between 10 and 20 per cent. to the total cultivated area of the country. When this is finished, the limit of expansion of Egyptian agriculture will have been reached as regards area, and any further progress will depend on increased summer water-supply, but still more on improvements in the utilisation of the agricultural capacities of the country.

Salt Lands.

In addition to the primary function of providing and distributing water, and the equivalent function of removing drainage water, there is the curious additional task of preventing invasion of the Delta by the sea. It was mentioned in the beginning of this chapter that during the summer season no water reaches the sea directly. We are now in a position to see why. The Delta barrage across the two arms of the Nile at their bifurcation heads up the water and turns it into the three great Delta canals, leaving the arms of the Nile to dry up. All along their course, however, water makes its way back into them from the surrounding country, using these two river-beds as drains, and by the time the sea is reached there is a useful volume of fairly sweet water in them.

The Invading Sea.

In order to use this water, and to prevent the sea-water of the Mediterranean from forcing its way upstream, thus salting the land and spoiling it, the mouths of the Damietta and Rosetta branches of the Nile have to be closed every summer. No permanent regulating works have yet been built for this purpose, but an earthen dam is thrown across the river, which is afterwards washed away by the flood.

The Irrigation Department.—We have now reviewed most of the machinery by which perennial irrigation is effected, and we have lastly to consider the way in which this machinery is worked for the benefit of the country at large.

The actual distribution of the water is based on a system of " rotations," which serves several purposes simultaneously, and consists of two different kinds, summer rotations and flood rotations. Summer rotations are necessitated by the fact already noted, that there is not enough water in the summer to permit of it being ladled out by everyone indiscriminately. The various decrees restricting the date for sowing maize, or even rice, are first issued, and then the summer rotations are applied to the canals. Each large canal is divided for administrative purposes into three sections, comprising its upper, middle, and tail reaches. The farmers along the banks of these canals, and of the distributaries which they feed, may only take water during a period of six or seven days out of every eighteen to twenty-four days; the permission to take water in the head section moves automatically at the end of a week to the middle section, and so again to the tail section. Any man taking water when the rotation of the permission does not entitle him to do so, is committing a serious and punishable offence. The procedure adopted when there is sufficient water for the purpose is to make a simple rotation of three one-week periods, so that each man's turn comes round every third week. If the summer supply is seriously defective, one or two rest-days are interpolated; thus, on the seventh and eighth days, after the first section has finished,

Distribution of Water.

nobody is allowed to take any water, and similarly on the fifteenth and sixteenth, twenty-third and twenty-fourth days. The employment of rest-days in a period of short supply enables the canal to be filled up to its full level before the next section starts watering.

The object of flood rotations is entirely different. Ample water is then available, and the fellah is prone to use too much of it; the canals are therefore run in alternate weeks at high and low levels. When the canal is high, free-flow irrigation can be pursued; when it is low, anyone who likes to lift water can do so, but this prevents him from over-watering his crop. Equally important is the second reason for flood rotations; there is always a certain amount of seepage of water going on from a high-level canal, and the higher the water-level in it, the greater the amount of seepage; when the canal is running almost empty, with its water-surface often below country-level, this seepage is trifling, or may even be reversed by the canal acting as a drain.

In many countries which practise irrigation, other methods of regulating the distribution of water are employed, such as special sluices called "modules," which will only allow a certain discharge to pass through them; or the known discharge is only given for a certain time. In Lombardy the distribution of water is facilitated by a highly-developed public conscience, which regards theft of water as a social stigma. The simpler system of Egypt suits most people's needs, without undue elaboration.

The fellah thus does not have to purchase his water. The payment of his land-tax is an automatic contract between him and the Government that he shall obtain sufficient water for the maturing of one crop yearly, at least, and it obliges the Government to make that supply available; in default, the land-tax is remitted. The Government is thus not obliged to make provision for summer crops, so long as water has been distributed to complete the growing of a winter crop, but it is

Payment.

to the interest of everyone in the country—unless possibly some speculators—that as much summer crop as possible shall be grown, for export and for indirect revenue.

The Irrigation Department which administers all these matters, from designing the Assuan Dam to prosecuting the owner of one acre for stealing water, is a branch of the Ministry of Public Works, and is inevitably the chief department of the Ministry. The Ministry consists of an Egyptian Minister, and an Under-Secretary of State, who has usually been the senior officer of the Irrigation Department. Two Inspectors-General take charge of Upper and Lower Egypt separately, with Inspectors, Directors of Works, chief district Engineers under them, and a host of minor employés, down to the gangs engaged by contractors for earth-work.

Staff.

The most remarkable thing about this remarkable Department, as it exists to-day, is not merely the productive nature of most of its expenditure, but the smallness of that expenditure. In the early days of the British Occupation there was no money to spend, and the record of the work effected in two decades, up till the time of the Assuan Dam, may be summarised as follows: the cotton crop doubled, thus practically doubling the country's exports, the maturing of a maize crop assured by providing water soon enough for sowing, the area under cultivation raised from 5,000,000 to 6,000,000 acres, the cost of raising crops lessened by the provision of free-flow water, and the general value of land throughout Egypt doubled. The cost of these achievements, as regards capital expenditure, was £4,000,000, or less than a sovereign an acre.

Cost.

The cotton crop alone is such an enormously valuable asset that even heavy expenditure is recouped by the country from the Government in an astonishing way. The barrage at Zifta was finished a year before the contract time, owing to the energy of a junior English official; the additional cotton matured successfully in consequence during that year

was worth as much as the Zifta Barrage had cost. The Assuan Dam is said to have paid for itself to the country in the first season of its use, although it cost £3,000,000. But the most astounding example was the raising of the Dam to increase its storage capacity. It was work which might have been postponed, since the provision existing for drainage was insufficient to meet the supply of water already existing, and there were not a few people in Egypt who regarded it as being unnecessary.

However, the work was put in hand under Sir Eldon Gorst, and to him belongs the credit of having saved Egypt. It was finished in time to store water for the summer supply of 1913, and the flood of this year turned out to be not only lower than any flood for a century past, but also the latest recorded, coming down weeks after the usual time. The extra 1,400,000,000 tons of water which the raised dam was holding just saw the business through. On the best estimates available it is considered that one-third of the cotton crop would otherwise have been lost, amounting to 2,500,000 kantars, worth about £3 a kantar, being sufficient to pay for the original dam, and for the raising of it, and still leave plenty of money to spare. From this it will be gathered that not only has the Egyptian irrigation service made a name for itself, but that fortune has sometimes been kind to it as well. The flood of 1914 was also a bad one, and it is quite reasonable to assume that, if the late Sir Eldon Gorst had not put this matter of the raising of the dam into hand, the country would not have been so peaceful and prosperous and unperturbed as it was when the European War broke out, in the autumn of that year.

Sir Eldon Gorst.

It is quite evident that no finality has yet been attained in the development of Egyptian irrigation. Modern civilisation has engineering resources at its disposal which the Ancient Egyptians did not possess, while it can rival them in the mere size of the projects it executes. The old basin system of irrigation,

Transition.

though very simple in principle, was steadily improved in detail century by century, up to the present time. The action of Mohammed Ali introduced the alien system of perennial irrigation, starting a fresh series of developments, each development introducing subsidiary problems to be dealt with. Good as the irrigation system in Egypt is, it is merely a transition stage to a better one. Before a perfect system of irrigation on the present lines has been achieved, further developments will follow.

The nature of the developments can only be surmised, but they must evidently be sought in details and refinements on the cultivated land itself in the first instance, calling for greater skill and precision in the use of the water supplied. This cannot come until education is more widely spread in the country among the common people; such education need not be the fact-acquiring fetish of the West, but a training in the use of thought, exercised on the common circumstances of everyday life.

Parallel refinements in the system of irrigation will consequently appear, which at the present time are simply unnecessary and also too expensive to be economically advisable. Thus, the small irrigation systems in the United States of America find it worth while to resort to devices which are still not worth while in Egypt, such as canals built of iron or concrete to lessen water-loss; contrariwise, there is at least one big main canal in America which any Egyptian official would condemn and reconstruct on sight, for its intake is only kept clear of silt by dredgers working continuously! As land-values rise with increased skill in cultivation, and the maximum productivity of each crop on each piece of land in the country is attained—for there *is* such a maximum—the reduction of the sterile areas occupied by the canals and drains will become the only practicable line of further expansion. This is an important point, especially since we have seen good reason to believe that drainage facilities will continue to

The Future.

ON AN IRRIGATION CANAL

extend. Some idea of its magnitude may be gathered from the fact that when a piece of land is provided with a thoroughly effective system of open drains, for washing it free from salt, one-tenth of its total area is occupied by ditches; in other words, is rendered sterile. At the present time this sacrifice of a part saves the whole, and is more than worth while, but a time will come when some way out of the difficulty will have to be found, either by covered drains or other means. Possibly electricity derived from the water-power of the Nile itself will play an important part, and Egypt will become a country, not merely of farmers, but of electrical engineers, or rather, handymen. Those who know Egypt will also know that this is looking a very long way ahead; at the present day there would be more corpses than crops if such a system were to be introduced. Still, seeing the enormous strides which have been made by the central authorities in the last three decades, it is safe to assume that at some future time the people they serve will also advance—not in bulk, but by an individual here and there—and the face of the land will be changed, even as the Nile itself.

CHAPTER VI

NATURE'S REVENGES

> " His side of the sum was beyond question ; but what man knew Mother Gunga's arithmetic ? "
> —*The Bridge-Builders.*

SOME of the minor sorrows of life in Egypt are familiar to the world at large through the pages of the Book of the Exodus. Her plagues are still with us, and the walking-stick of a tourist will still turn the dust into a cloud of fleas, nearly as effectually as did Aaron's rod. The site of any encampment, a heap of rubbish, or a deserted house, teems with them in the spring, and the dust kicked up by the visitors' boots is more alive than not. There is an old institution called the Coptic Calendar, giving the dates of various annual events, after the style of Gilbert White of Selborne, and one of the entries in the early summer reads : " The rage of fleas abates."

Egypt is a curious country as regards its insect life. To the casual observer there seem to be very few kinds of insects, as compared with the butterflies and moths and beetles of an English garden, but such kinds as there are—mostly pernicious—make up in numbers what they lack in variety. The kitchen *can* be cleared of cockroaches by unremitting attention nightly, by pyrethrum powder, and a well-aimed slipper, but it is a fight against heavy odds. The mosquitos could be eliminated as they have been in Khartoum, by regular weekly inspection of all stagnant water and by covering such with a film of petroleum to kill the larvae, but Egypt is lucky in that there is very little malaria in the country except in certain districts, and since mosquitos are rather annoying than dangerous when there are few malarial kinds about, they are allowed to

Insects.

flourish. At Khartoum, formerly a hotbed of malaria, one can sleep in the open without mosquito nets; in Cairo, if a corner of the net happens to come untucked, some forty turgid insects will be there in the morning. More evil than the mosquito, except for those unfortunate people who never become immune to its bite, are the sand-flies, whom a beneficent providence has made small enough to walk through the meshes of a mosquito net, but has so constructed that when they have gorged their fill their wings stick out sideways, preventing them from crawling out again; in a sand-fly area the only protection is a fine muslin net, which is abominably hot and stuffy on a summer night, unless one can sleep out of doors.

These, however, are mere nightly incidents, whereas the Egyptian fly is a plague of the day, when tempers are less tolerant. Flies also have their season of greatest power, though they never die down entirely, and in some years the weather conditions favour them so that even in the villa-suburbs of European Cairo they are insupportable. The month of May, in 1909, was a time when it was decreed that "the houses of the Egyptians shall be full of swarms of flies, and also the ground whereon they are." At such times all windows are closed in the early morning, the jalousies are shut over them, and pyrethrum powder is scattered on the glass to kill the flies inside when they go to the light which filters through the shutters. In the native villages these precautions are almost useless, even if they were taken, for half a hundred flies will enter every time the door is opened. To make matters worse, the Egyptian fly is not a peaceable, phlegmatic creature like his northern relations, but is as foolishly active as the proverbial ant, and returns time after time at intervals of a second or two in order to browse on the very spot from which he has been driven. The carrying of the horse-hair or palm-leaf fly-switch by men whose work takes them into the villages during the summer months is no affectation, but a stern necessity.

These pestilent insects, besides being a source of endless annoyance, are dangerous to health. As yet it has been almost impossible to attempt to eliminate them from the country, partly on account of international difficulties which existed before the Protectorate was declared, and partly on account of the difficulty of administration. Moreover, the native Egyptian has been used to them for so many generations that all individuals who were not fairly immune to such diseases as flourish under the conditions obtaining in the villages have been killed off, and the average resistance of the race to ordinary disease is fairly high. The very high rate of infantile mortality, due largely to neglect, ignorance, and superstition on the part of the mothers, is accentuated by insects carrying infection from garbage to food. The most cynical view holds that if the weaklings were not thus killed off in infancy, they would only die later. The truth probably lies somewhere between this view and the other extreme, which would endeavour to save the life of every infant, however defective. Meanwhile, the fact remains that sanitary reform would benefit the common people of Egypt less than any other people in the country, and it has therefore had to wait its turn, though many palliative reforms have been initiated. Very few diseases are not endemic in the country, from plague and tuberculosis downwards, and in addition the climate is treacherous, heavy perspiration and dry air provoking chills readily. The only disease which becomes seriously epidemic in Egypt is cholera, and of late years this has been successfully excluded from the country, even when the rest of the Levant has been attacked, by an elaborate and effective quarantine system. The existence of the annual pilgrimage to Mecca throws an immense amount of work on the Quarantine authorities, who have a special segregation camp in Sinai through which all pilgrims returning to the north have to pass. The Hedjaz is the meeting-place of pilgrim Mohammedans from all over the world, and these pilgrims have

Diseases.

sometimes taken four or five years to do the journey on foot, earning their living as they move along; the opportunities thus offered for the distribution of disease are very great.

Apart from bacterial disease there is a great deal of disease amongst the fellaheen due to parasitic worms, which find their way into the water of the irrigation channels, and so infect other persons who are working barefooted in the fields or drinking the water.

Nor do the beasts escape the "very grievous murrain." Cattle plague and rinderpest keep the veterinary department busy. In old times these diseases used to sweep uncontrolled over the country in epidemics at intervals of a generation, killing the cattle wholesale, and so reducing many of the fellaheen to absolute dependence on the labour of their own hands, besides cutting down the scanty supply of manure. Gradually this plague is being taken in hand, by means of inoculation, which it is intended to apply to every animal in the country as a matter of routine.

Animal Plagues.

Fowls also suffer from a "chicken cholera," carried by ticks from bird to bird. The ordinary native fowls are comparatively immune, besides being tough in other ways, but any imported breeds of fowl from Europe have to be watched with care, or else the whole poultry-run may be killed off in a couple of nights.

The insect plagues do not confine themselves to the annoyance of human beings. They also devour the crops, sometimes requiring the whole available labour of the country to combat them. It is rather strange that the pests attacking Egyptian crops are almost exclusively insects, the fungoid diseases which are so common in other countries being of very minor importance; if any pest resembling the potato disease were to invade the clover crop of the country, it would strike at the very foundation of Egypt's prosperity. Meanwhile the worst insect pests are those which prey on the cotton crop,

Crop Plagues.

and the worst of these are two caterpillars which burrow into the unripe fruits or bolls, and a third which eats the leaves. The latter is amenable to discipline, if strictly enforced, and now does but little damage, the whole population being turned into the cotton fields to pick the attacked leaves as soon as they are reported; the fellah would not do this except under Government compulsion. The boll-worms are much more difficult to deal with, since they are safely hidden away inside the bolls, and up to the present they have successfully defied the authorities. One had been known in Egypt for many years, doing more damage in some years than in others, but the second one, the Pink Boll-worm, was found for the first time in 1910, probably an accidental importation from India, and in 1913 it destroyed not less than 1,000,000 kantars of cotton, worth roughly £3,000,000, and possibly more. The comparative uniformity of the country, its small size, and the dense cultivation, are all in favour of a new pest, and this pink maggot and its dingy little parent moth got completely out of hand, almost before its presence had been realised. Probably it will die down again through natural causes, taking its proper place in the fauna of Egypt, just as the Canadian Pond-weed did in England.

This was the second case within a decade of sudden invasion by a new insect plague—as if Egypt had not already enough—for the acacia avenues of Cairo had been ruined by a mealy-bug which was quite a new species, discovered for the first time in a garden in 1906. In this case the insect, though widely spread within a few years, was unable to damage the trees seriously except where the streets which they shaded had been tarred.

As in the time of Moses, there are still locusts at intervals of ten years or so, while the Sudan is always liable to them. They come in clouds, and their activity and persistence need extensive and effective organisation to deal with them, though they themselves are liable to be plagued by a disease of their own. A picturesque lie was told of them by one who

said that he saw a locust sitting beside the mangled stump of every cotton seedling in a field, waiting for it to grow up far enough to provide another bite.

It is interesting to notice how much less attention is paid to the plagues of the weather by modern visitors, as compared with the travellers of a century ago. An officer of the British army in 1801 describes the effects of a "khamseen" wind in terms approaching terror, although the thermometer in tents exposed to the sun only rose to 120° F., and his experience was in the northern Delta, where conditions are less trying. A bad khamseen is an extremely unpleasant and wearying experience but nothing more, except in the desert, and the residents of the Sudan face the super-khamseen which they call the "haboob" as a matter of course. One potent reason for this change of opinion is undoubtedly the change which has taken place in clothing; where the soldier of a hundred years ago was buttoned up tightly in thick uniform, skin-tight breeches, and a high stock, with a peaked hat or a heavy head-dress of some kind, the modern resident in Egypt seeking comfort wears thin white cotton or silk clothing, consisting of shirt, trousers and jacket, white canvas boots with thick soles, and a light but inch-thick pith sun-helmet, possibly with a further protection against the sun in the form of a spine-pad inside the jacket. The only vulnerable spot then is the eye, and with increasing realisation of the far-reaching disturbances which eye-strain can cause, the use of protective glasses is becoming less unusual; the objection to them is principally one of appearance, and now that it is possible to obtain glass which gives sufficient protection without deep colour, their use will probably increase. Thus equipped, though it is impossible to be cool and comfortable on a hot day, one wonders how our grandfathers ever survived at all. The heat and strong light occasionally revenge themselves on foreigners in Egypt by causing nervous breakdowns, which in some cases have been traced directly to the eyes,

Heat of Sun.

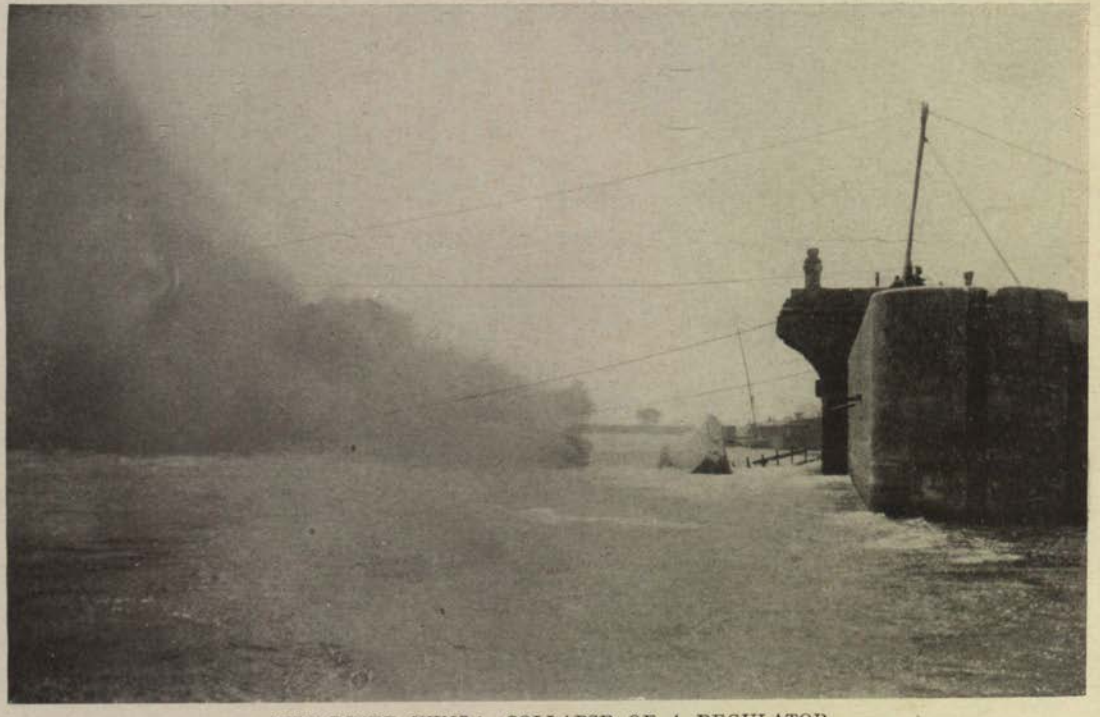
and Egypt is not a good country for any white man of a nervous disposition.

This is apart from sunstroke proper, which runs through every gradation from mere sleepiness to death. With modern clothing, a " touch of sun " is more usually contracted in the early morning or evening than at mid-day, the sun striking below the helmet on to the nape of the neck. A bad touch of sun, something short of real sunstroke, is sufficiently unpleasant, and some white men are peculiarly liable to it. It begins with drowsiness, limpness, and headache; the headache extends until every part of the body is one great ache which lasts perhaps for a night and a day, finally departing and leaving the victim scarcely able to totter about at first; it may take a week to get back to normal health.

Wind and Dust.

The dust-storm which usually accompanies the khamseen wind is a small thing in the Nile valley as compared with its efforts in the desert, but even so it is not pleasant. Rarely it happens that a real dust-devil finds its way into the valley, and comes whirling down it with a noise like a heavy goods train running over an iron viaduct, throwing in all directions any movable objects obstructing its path. Otherwise, a dust-storm simply fills the air till the sun looms pale white in a deep saffron sky, and the dust oozes through every crevice and through the best-fitting window-frames. The violent wind, tearing from the desert over the flat land, tests the roots of every tree, and fells any which are unsound. The palm-trees leap like a whip-lash, and even they are sometimes snapped in two. Then the wind, which has been slowly swinging round from the north, through east, to south, begins to approach the west, till, often with dramatic suddenness, it rushes back to the cool north and drops.

Several years have now elapsed since the river itself was able to take any serious revenge on its users. We have seen how the extraordinarily bad flood of 1913 was forestalled



THE RIVER WINS: COLLAPSE OF A REGULATOR

almost by accident, and otherwise it has been restricted to minor pranks, such as changing the river bed to dodge the swing-span of a new bridge, undercutting a masonry regulator at the head of a canal, and similar antics which are all in the day's work. But although the Nile is harnessed, nobody supposes that the harness is yet strong enough to hold the river if it exerts its whole force; the abnormally low and late flood of 1913 might equally well have been an abnormally high and early one. The harness is being strengthened as time goes on, and ultimately the risk will disappear altogether. The more prosperous and wealthy the country becomes, and the greater the amount of labour placed in it in the form of permanent works of public utility, the more necessary will it be to insure against the more remote risks. The stock example of a river ruining its own work is the Tigro-Euphrates, now a barren waste under Turkish rule, where once was an empire's seat. A view from the ruins of Opis, where the head-works of the ancient canals were formerly situated on the Tigris above Baghdad has been thus described: "Some sudden and overwhelming mass of water must have prostrated everything in its way, while the Tigris, as it anciently flowed, is seen to have left its channel and taken its course through the most flourishing portion of the district, severing in its mad career the neck of the great Nahrwan artery, and spreading devastation over the whole district around. Towns, villages, and canals, men, animals, and cultivation, must thus have been engulfed in a moment. . . The region at once became a desert where before were animation and prosperity." In the history of Egypt we have seen how flood or drought has ensued when the Nile was allowed to get out of hand; worst of all when flood followed drought and overwhelmed a country weakened by starvation and pestilence. By such events we can trace a little of the terror and reverence the Nile inspired in the dawn of Egyptian history, which have now died down to mere interest. Even to-day the swirl and rush of the

Flood and Famine.

chocolate water, passing under the Cairo bridges in flood with a gait of a long-distance runner, is still impressive; and the hard edge which the ocean liner crosses far out of sight from the land, where the muddy river abuts on the blue water of the Mediterranean, still conveys some idea of the magnitude of the task which the Anglo-Egyptian irrigation engineers set themselves when they undertook to hinder and prevent the Nile's revenges.

In all these problems which Nature presents to her would-be masters in Egypt, the scale of the task is generous, in spite of the small size of the country. The individual problem is usually clean-cut, and is of such a nature that it cannot be dealt with in a niggling way. The first necessity in every case is a complete understanding of the ultimate causes, not merely of the proximate ones which suffice for dealing with little problems. The axe of the reformer must be laid to the root of the matter. The mere size of these problems is alone enough to justify large measures, and intensive research on which to base them. A miserable little maggot, which was not known to exist five years previously, costs £3,000,000 in a single season. It seems to be very clear that Egypt is destined again to become the model country for the application of science to everyday life, not merely in the quarter-hearted way in which it has been applied elsewhere, but—exactly as in pre-dynastic Egypt—by delving down to the limit of knowledge in order to formulate methods with which to forestall Nature's revenges.

Natural Science.

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PART III

THE DWELLERS IN EGYPT

CHAPTER VII

CLOVER, CORN, AND COTTON

"And the ploughman settled the share
More deep in the sun-dried clod:—
Mogul, Mahratta, and Mlech from the north,
And White Queen over the seas.
God raiseth them up and driveth them forth
As the dust of the ploughshare flies in the breeze;
But the wheat and the cattle are all my care,
And the rest is the will of God."

—*What the People Said.*

IN the previous Part we have seen how the water of the river is brought to the edge of every field, thus completing the Four Elements; earth, air, fire—from the glaring sun—and water. Out of these is built up the wealth of Egypt.

The implements which the fellah uses are remarkably primitive, but suitable to the conditions under which he works.

Ploughing.

His plough is the same as the ploughs depicted in the tombs of Ancient Egypt; a thick stake with a metal protection on its point, which is dragged through the soil by a draught-bar fixed to it at an acute angle, and a pair of oxen in a yoke. The ploughman has an upright handle to hold, and when the point is not going deep enough, he stands on the heel of the plough. When it is necessary to make ridges, a piece of wood fastened in between the stake and the draught-bar serves to throw the earth outwards to both sides. The whole implement costs about 12s. It does not invert the surface soil like an English plough, but there is no need to invert it in a land where

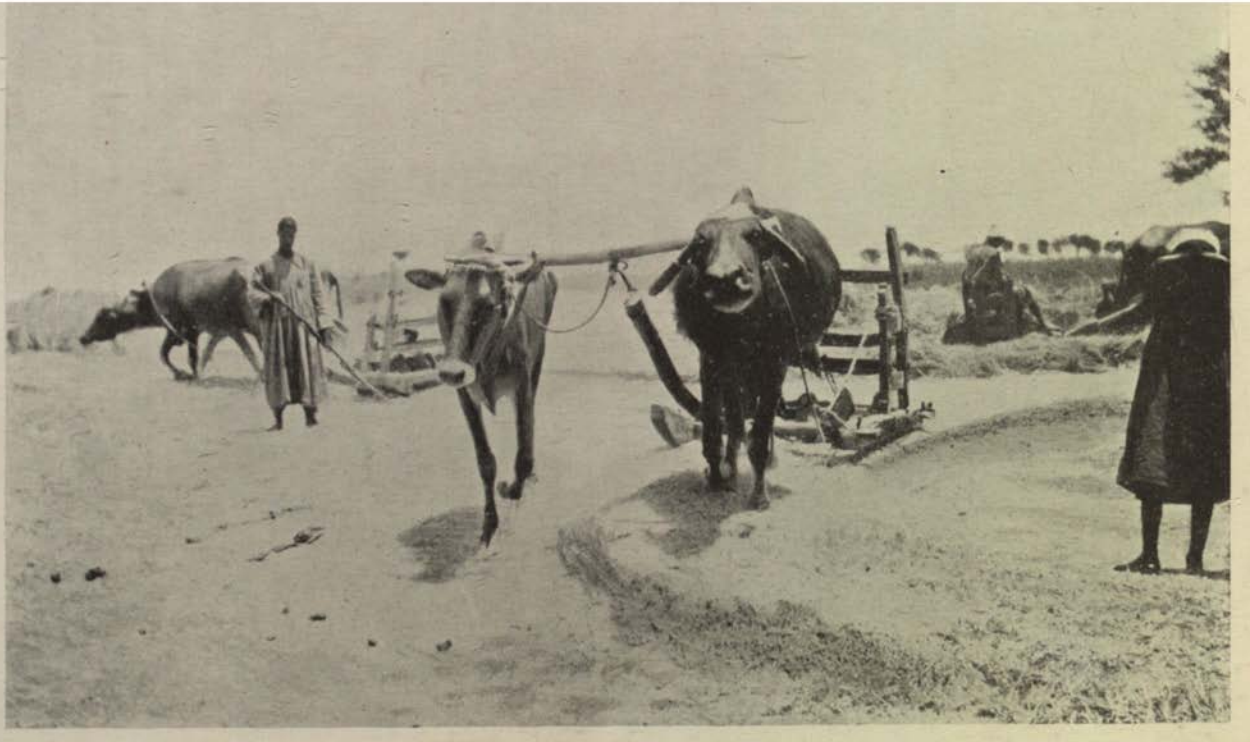
the action of soil bacteria so rapidly rots any roots left in the soil, and where it is of great importance that the level of the field shall not be destroyed. Moreover, on the shallower soils, deep ploughing may bring up salt to the surface. Special steam-cultivators are employed on big estates, but usually in direct imitation of the action of the native plough.

Of horse-hoes, cultivators, and harrows, the fellah knows nothing. The *fass* takes the place of all these, and of the spade and pickaxe also. It is a heavy hoe with a three-foot handle, and a strong three-cornered head like that of an adze. It is used for everything, from digging the Suez Canal to the making of a table in camp. The user stands facing his work, swings the heavy blade over his head, and allows it to fall in front of and between his widely separated feet, slipping his grip on the falling handle like a man swinging an axe. It looks unnecessarily cumbersome for such light work as hoeing out surface weeds in a young crop, but once the trick of swinging has been learnt it is less tiring than a lighter tool would be.

The "Fass."

Seed-drills and distributors are replaced by the hand and a piece of stick, rollers by a baulk of timber on which the driver stands to make it heavier, and threshing machines by the *norag*, which is a kind of cart with twelve iron disc wheels, in three rows of four, set out of track. The wheat to be thrashed is spread out on the threshing-floor, and any available pair of animals draws the *norag* round and round in a circle, with a driver sitting on it. The hoofs of the animals and the twelve iron wheels crack and bruise the straw and the ears, and this bruised material is then heaped up in the centre of the circle, while fresh stuff is thrown in from the outside of the floor. When all has been treated thus, the heap of mixed chaff, broken straw, and grain is winnowed by casting it up in the wind with a large wooden fork, and the grain, which falls nearest the thrower, is roughly cleaned on

The Threshing-floor.



AN ODD YOKE ON THE THRESHING-FLOOR

sieves by hand from clods of earth. Where threshing machinery has been introduced by large landowners, it has been found necessary to add a straw-chopping and bruising attachment, to imitate the action of the *norag*, since the straw thus obtained is a valuable food for stock.

Two implements which are more or less peculiar to Egypt are the *kassabia* and the *batana*. The former resembles a wooden dustpan on a large scale, with two handles; it is drawn along by oxen, scooping up earth, or acting like a sledge transporting the earth it has gathered; it is thus used for levelling, taking earth from the high parts of a field and filling up the hollows. Levelling is of fundamental importance in an irrigated country, and is one of the heaviest items in the reclamation of land; thus, to get rid of a slope of only 1½ in 1,000, across a field a furlong in width, means that some 400 tons of earth have to be shifted over an average distance of more than 150 yards; allowing 2s. 6d. a day for the wage of a man and a pair of oxen, this would cost about £6 an acre. The *batana* is like an inverted snow-plough, two converging boards gathering the surface soil together, and leaving it behind them in a ridge; it is used to form the ridges which separate plot from plot, when hand labour with the *fass* is not convenient.

Levelling.

There is very little metal in any of these appliances, and the Egyptian farm can be stocked with all its implements at a cost of about 6s. an acre, as against some £2 or £3 per acre for the cost of implements on a European farm. The fellah shows the international conservatism of the farmer with regard to new kinds of implements; a ploughman put on to use a European turn-wrest plough was found complaining bitterly of its heavy draught, and begging to be given the native plough again; it was found that he had broken off both the shares, and had bent a coulter, so that the unfortunate plough slid into the soil rather less easily than an ammunition boot would have done.

Cheap Equipment.

The care of any kind of machinery is not the Egyptian's strong point. He treats it very much as he treats animals, taking no more trouble than is inevitable.

Machinery.

The idea of regarding a machine with any affection is alien to him. Nor is the country one in which machinery flourishes; steel-work rusts rapidly from the night-dews, boilers choke from the mud in the feed-water, and dust enters all exposed moving parts and grinds them out of truth. The American type of machine, made to do its work as simply as possible, and then to be scrapped for a new purchase, is really better suited to the Egyptian demand than is the well-finished, enduring product of the English engineer. Chambers of Commerce and Consular Reports are always rubbing it into the English manufacturer, not in Egypt alone, and not without reason.

The type of machinery needed by the Egyptian farmer, when his holding is large enough to need any at all, is something simple, inexpensive, and fool-proof. High efficiency is of minor importance, for however efficient the new engine may be, it will not remain so for long, and at the end of a year's work it will be inferior to a worse machine which has been designed to stand ill-usage. Engines and pumps are driven too fast, over their economical speed, with too much or too little lubrication; the boilers silt up, and the engine simply eats up coal. There should be a future for alcohol-driven internal-combustion engines in Egypt, since alcohol is produced in the country, but probably electric power will ultimately be the mainstay of the country's industry.

Apart from such inventions of western civilisation, the implements of the Egyptian farmer necessarily include means for lifting water, even in places where free-flow irrigation is usually practicable. According to the work they have to do, and the frequency of their use, these vary in complexity from the *sakia*, worked by oxen on a lift which may be 25 ft. high, down to the *nattala*.

Water-lifting.

The *nattala* is simply a basket swung by two men with cords, scooping up water in which they stand and lifting it over the low bank in front of them. The *badala* is similarly used for very low lifts, being a tipping trough worked by one man, pivoted at its open end. These two implements have been largely supplanted by the more expensive Archimedean Screw, which is a wooden cylinder hooped with iron, about 10 ft. long and 18 in. in diameter, containing a screw-shaped partition running up it spirally; the cylinder is mounted to revolve on its long axis, its lower end dipping into water which, when the cylinder is revolved by a handle, falls down the screw, up to and out of the upper end of the cylinder; it costs about as much as the native plough, and is used for lifts of about 2 ft.

For higher lifts the simplest appliance is the *shadoof*, a long counterpoised sweep pivoted between two pillars, with a bucket on its long end. The pillars are made of mud, wood, or stone, and the counterpoise is usually of mud; the leathern dipper-bucket is circular, about 18 in. in diameter, holding some four gals. of water. The pivot is the most remarkable feature of the *shadoof*, being simple and yet efficient; a cross-piece on the sweep is slung by short loops of rope from the cross-bar which rests on the two pillars; the simple toggle-joint thus formed reduces the friction, and allows a little backward play to the sweep, which makes it easier to swing the bucket inwards over the head of the water-channel which is being filled. The *shadoof* works best on a lift of about 6 ft.; higher lifts may be obtained by using two or three *shadoofs*, each with its own operator, arranged in a tier. Its maximum discharge is about eight tons per hour, with some seven strokes per minute, but to maintain this rate is more than one man can do.

The *sakia* is another familiar feature of the Nile banks, or it may be arranged over a pit sunk in the fields down to the water-bearing gravels. The creaking drone of its great wooden cog-wheels is not unpleasant, and in any case it is

one of the inevitable sounds of Egypt, like the croak of the frogs and the chirrup of crickets. A circular path for the draught animal is beaten out beside the well or pit; two large mud pillars on either side of the circle carry a cross-bar, on which is the upper bearing of a vertical axle; on this axle is a radial draught-bar to which the draught animal is yoked, and a huge wooden cog-wheel, only a little smaller than the circular path. The teeth of this cog-wheel engage with those of a smaller and vertical wheel, whose axle runs under the path, bearing a skeleton drum of wood at its outer end, projecting over the water to be lifted. On this drum runs an endless double rope, with earthen pots slung on it at intervals, which —the drum being rotated by the animal walking round the track—bring the water up and tip it out at the top into the high-level ditch. If the level of the lower water varies, the length of the rope is altered, to deal with anything from 6 to 25 ft. lift. Variations on the *sakia* are the *taboot*, which replaces the drum and buckets by a wheel with boxes in its rim, and the *noria*, which is a modern form of *sakia* made in iron. Actually, however, the latter is less reliable than the wooden form, since its teeth are liable to strip when the drowsy draught-animal leaps forward, in response to a blow from the stick of the small boy in charge.

"Sakia."

The making of these great cog-wheels is a special trade, with its own rule of thumb for setting out the pitch of the cogs. In spite of the creaks and groans which are heard as the teeth slip on one another, the appliance is remarkably efficient. The animal turning it, whether ox, buffalo, or camel, is always blindfolded, and when the last-named is harnessed to the *sakia* it develops a queer knowledge of the exact moment at which to duck its long neck, twice in every circuit, so as to avoid colliding with the cross-beam overhead between the pillars.

Water having been provided, and the land made up in ridges and furrows or in little embanked squares to receive

THE SCREW OF ARCHIMEDES

it, the farmer's next difficulty is the supply of manure, and even this has its peculiarities in Egypt. In the old basin system the alternation of a clover crop in one year with a cereal crop in the next, together with the annual mud-deposit, was sufficient to keep the land up to its normal fertility. With the introduction of perennial irrigation on a large scale, the manure question becomes less simple. The Nile valley soils are fairly rich in phosphates, and rarely deficient in potash, but they are poor in nitrogen, and the whole system of cultivation hinges on the nitrogen-absorbing habits of the clover crop. This has, however, to be supplemented, and it is not very easy to do so. The ordinary resource and mainstay of a European farmer is his farmyard manure, but in Egypt there is only a restricted amount of this available; there is no coal or wood in the country (except the stalks of cotton and maize, which serve rather as kindling than as fuel proper), and since imported coal is expensive, the droppings of animals are largely used instead. One of the chief duties of the Fellaha housewife consists in the preparation of these neat little flat cakes, which are dried in the sun, either spread out on the ground or stuck on a wall. This lessens the amount of farmyard manure available for the land. It is possible that the serious loss of nitrogen which this entails will be reduced in the future by extension of the use of alcohol fuel, or replaced by taking nitrogen directly from the air by means of electricity obtained from water-power. Meanwhile, there are two other sources of nitrogen in Egypt, the nitrate-bearing shales of Upper Egypt, known as *tafla*, and the *coufri* found in all parts of the country.

Manure and Fuel.

This *coufri* is obtained from the mounds, or *koms*, on which towns have formerly stood. The mounds themselves consist of the debris of their towns, and have been saturated with organic refuse, which in the course of time has been converted by bacteria into nitrates. The *kom* is therefore quarried, and camel-loads

Past and Present.

of its dust are carried away and spread on the fields. This source of supply is becoming exhausted, since not all *koms* are equally rich in nitrate, and in some it is accompanied by injurious amounts of common salt. The manurial supply of Egypt is thus in a transition stage and increasing amounts of nitrate are being imported, but in time there should be sufficient demand to make it practicable to establish plant for the utilisation of sun-power or water-power with which to obtain nitrogen from the air, and to develop the supply and use of alcohol fuel in order to economise the available farmyard manure. The peculiar agriculture of Egypt is, however, as yet very little understanded of the professional agriculturalists, and much serious scientific investigation is needed in order to organise any such new departures economically and efficiently.

Under the present *régime* the farmyard manure is usually conserved for the cotton crop, while the *coufri* and *tafla*, being quick-acting, are given to the maize crop. There is, however, a great deal of self-acting bacterial work going on in an Egyptian soil, so that land which is left fallow for a while improves rapidly in fertility. Another factor to be taken into account is the movement of water under the land and through it; nutrient salts may be washed out of the soil by heavy irrigation, move to another place, and there return to the surface to be concentrated by evaporation, in exactly the same way as ordinary salt is moved about; though the latter has injurious effects, instead of being beneficial.

The crops grown in Egypt are very various, but the three kinds which we have used for the title of the present chapter constitute the basis of Egyptian agriculture. Clover increases the nitrogen content of the soil, and serves as green fodder for animals; it is the primary source of the wealth of Egypt. Corn, whether wheat, as in our language, or maize, as in America, constitutes the food of the people, who are thus self-supporting. Cotton is the side-issue, the surplus crop made possible by a

The Crops.

simple life and a fertile soil, which is sold out of the country and so constitutes the principal source of national income. In point of fact, it has been found to be better business of late years to grow an excess of cotton, and actually import some 20 per cent. of the total consumption of wheat and maize, but the general classification of the three crops holds good in principle.

Under basin cultivation in Upper Egypt only one principal crop is grown yearly, though subsidiary crops are put in to utilise as much summer water as can be obtained by lifting it.

Under perennial irrigation two crops are grown each year, the rotation of the crops on any given piece of land varying according to circumstances. A typical arrangement for poor land in the Delta would be clover during the winter, ploughed up early to admit a crop of cotton during the summer, thus completing the first year's work of the land; in the second winter clover would be sown again, and left on the land to complete its growth, after which the soil would lie fallow for a few weeks until the use of water for maize was officially permitted, when maize would be sown; this being a quick-maturing crop would be taken off the land in time for a third year's winter crop of barley, which in the third summer would be followed by more maize, or possibly the land would be allowed to lie fallow until the autumn.

Where sugar-cane is grown, as in Upper Egypt, it occupies the land for two years, giving a crop in each year, after which the land is usually given two years to recover, while producing clover, maize, wheat and maize again, possibly with a fallow season in place of the second maize crop.

Good cotton land in Lower Egypt is driven harder than the poor land; it bears cotton every other year alternately with maize, during the summer, and carries clover, wheat, or fallow during the winter.

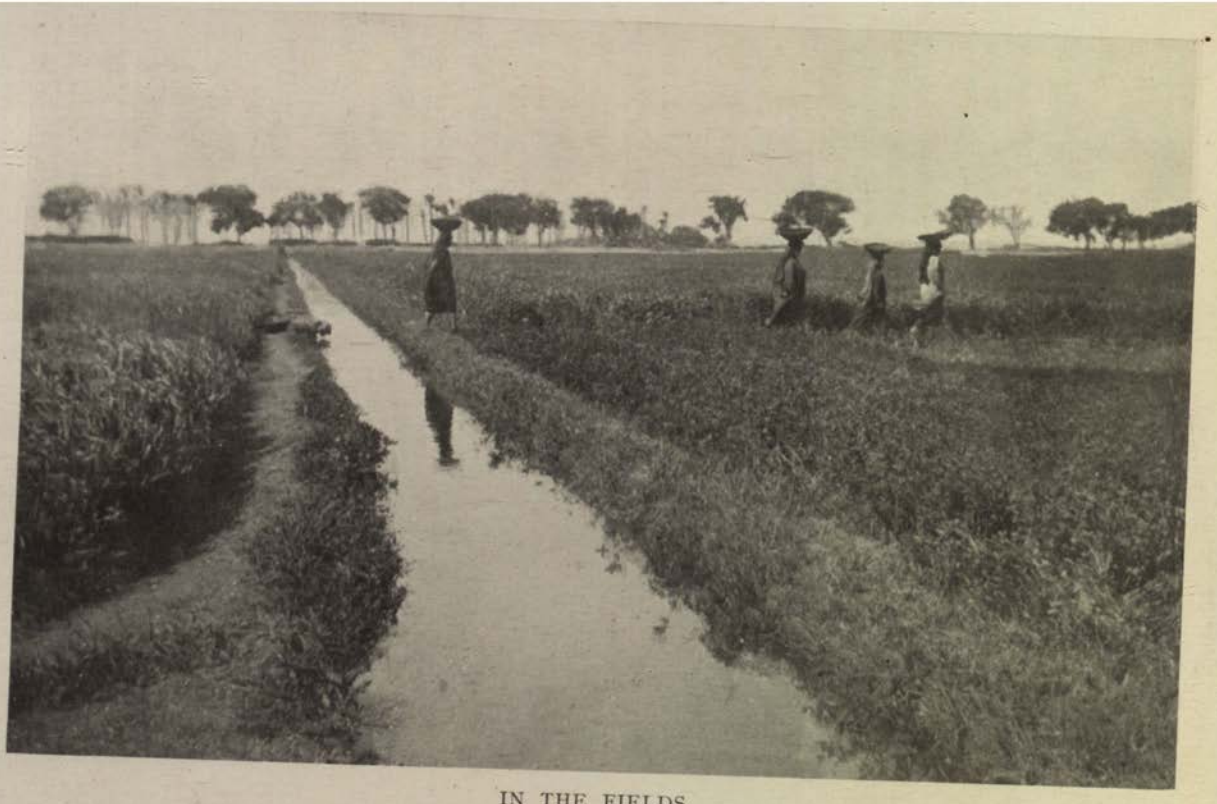
The result of this rapid succession of crops is that the values of purely agricultural land in Egypt are extremely high. Roughly speaking, the sum paid for annual rent in

Egypt would buy the same area of land outright in England. A value of £130 to £160 an acre, or a rent of £8 to £12 per acre per annum, is typical of good Delta land, while in the neighbourhood of big towns, where market-gardening can be practised, it rises to values of £350 an acre. The fellah who owns land is in a favourable position, but the one who rents it is liable to suffer if his cotton crop is a failure. Consequently, the number of small holders in Egypt is enormous, and the investment of savings in land is the favourite custom. Those who owned land at the time of the British Occupation in 1882 have been overgrown by fortune; whereas an acre of good land was then worth some £15, it is now worth £150, and the wily ones who sold at the top of the "boom" in 1906 obtained nearly £200. This enormous rise in values, due to public security and to the secure supply of irrigation water, has had an equivalent effect on the people, not always beneficially, and the younger generation, sprung from an uncertain independence into luxury, have sometimes found it going to their heads. The number of large landowners in Egypt is small; 89½ per cent. of the total owners of land in 1910 owned less than five acres apiece, accounting between them for 25 per cent. of the cultivated area of Egypt; less than half of the total area was held in holdings of more than fifty acres. Foreigners only hold some 13 per cent. of the total area, mostly in the form of land-reclamation companies.

Land Values.

The small holder of three or four acres can manage without external assistance, except occasionally as at harvest, and his children and women help extensively. The smallest girl leads the buffalo down to the canal, clouting it with a stick and calling it names of the most elaborate kind, while the great beast submits meekly unless she lets go of the halter, when it is likely to swim a few strokes into the middle of the channel and remain there peacefully with only the top of its head above water, oblivious to shrill remarks concerning its ancestry.

Small-holders.



IN THE FIELDS

The future of the small holder is a matter for interesting speculation. Under a certain limit of size, which is the amount one family can handle, a small-holding is economical. On the other hand there can be no doubt that agriculture in Egypt will, in course of time, become a more exacting business for the brain, if not for the body, than it has formerly been, and unless the mental activity of the fellah increases he will stand but little chance in competition with the big land-holders and companies, who can counteract the disadvantage of mercenary labour by mechanical devices and by their capital resources. It would seem as if machinery is likely to present the Egyptian with two alternatives, either to become a hired labourer, or else to devise some means of letting the able men get to the front, while yet remaining fellaheen, so raising the mental average of the race. Up to the present time the effect of the British Occupation has been steadily and deliberately to increase the proportion of small holdings, but there seems to be some reason to believe that this is a temporary swing of the pendulum, which must presently begin to move in the opposite direction.

Domestic Finance.

The trouble of the fellah, from an economic point of view, is his lack of foresight. Money is one of his chief topics of conversation—in a crowded tramcar one can always hear sums of money being discussed, from a few pence to a few pounds—but he usually refuses to provide for a rainy day. This custom is not altogether without reason; it is probably the heritage from a long sequence of centuries of servitude and erratic taxation, when it was well to enjoy possessions before the tax-collector gave them wings. In the early part of last century it was rare to find a corpulent Egyptian; if one was prosperous the fact had to be concealed, not advertised by the waist-band. Now that there is no such need, one can find many Egyptians who look most comfortable. Attempts have been made to render the Egyptian thrifty by "Act of Parliament," since he was slow to make fully effective use

of the State bank provided for him, preferring to deal with the less formal Greek moneylenders; but the bank shares collapsed, and the fellah devised new methods of evading the law, and assisted the Greeks to do so as well. The people of Egypt will become thrifty when the gentle pressure of modern circumstances has shown that there is any advantage to be obtained by thrift, no sooner. Three centuries hence there may be a call for legislation to compel the Egyptian to spend! Meanwhile the moneylender does very fair business; in one town there are three brothers, Greeks, with a sort of shop, built mostly of packing-cases; they wear no collars to their shirts, and, to quote a native's scathing remarks, "all three dine on a pigeon," but the town owes them £30,000, duly certified by their books, or rather more than a sovereign a head for every man, woman, and child. The Greek is the only man who can circumvent the Egyptian in money affairs; hence the heavy mortality amongst the Greek inhabitants at the massacres of Alexandria in 1882.

Moreover, although the fellah is not foresighted, it is not a lack of liking for money that prevents him from being thrifty. An enormous amount of gold passes into Egypt every year and disappears from the world's stock, some being made into ornaments, and some hoarded. The Mohammedan religion forbids usury, so that the strict Mohammedan will use a bank for a current account, but will not receive interest on his deposit; land and hoarded gold, with household equipment, are thus the principal uses for his money. If one who is suspected of possessing hoarded gold chances to die without leaving instructions to his heirs, a search ensues in the floor and walls of his house, and sometimes the house itself is demolished to find the hiding-place.

Usury Forbidden.

The private ownership of land is a new thing in Egypt, like security from the tax-collector or a supply of summer water, and the fact of this novelty may help to account for the land-hunger of the fellaheen. In Ancient Egypt all land

was usually the property of the Pharaoh or was conferred by him, and its use carried with it the liability to pay a part of the produce to him. At the Arab conquest in A.D. 640 the land was divided into two classes, the more heavily taxed being that belonging to non-Moslems. In 1808 Mohammed Ali decreed all private titles to land to be null and void and made the Government sole owner of the country, but five years later he allotted some three acres of land for life to every fellah of suitable age, and more on other terms. In 1854 the hereditary transmission of land was recognised, and a little later it was permitted that land should be sold, rented, or even mortgaged, practically resulting in a private ownership. Lastly, in 1871, the Khedive Ismail being in urgent need of money decreed that anyone who should pay his taxes for six years in advance could, in reward, have free possession of his land. In 1899 the land-tax, which carries with it an obligation on the part of the Government to supply water, was fixed at a little less than 1½ per cent. of the value of the land.

Land Ownership.

The owner of land may lease it to tenants, either for two or three years, or commonly for the cultivation of a single crop. A standing crop of clover is often hired. The difficulty of providing guarantees for the rent on the part of a small tenant is usually met by a system of sub-tenancy, the headman of a village renting land from the big landowner and subletting it to the heads of families, who may again sublet it amongst themselves. There is clearly room for an extensive development of co-operative societies in Egypt.

Labour.

Between the tenant and the labourer who works for a wage, there are all possible gradations; cash payment is modified by giving an area of clover, or further reduced by providing land for growing all crops. Such land has to be cultivated in accordance with the owner's instructions, and constitutes part of the farm. In some places the labourers are paid by

a share of the crops, with perquisites such as the cotton-sticks. The simple cash wages run from 3d. a day for children, to about 1s. a day for adults, in the southern Delta.

The crop of Egyptian clover, or *berseem*, is, as we have seen, of fundamental importance to the country. The plant is a species of clover with white flowers, peculiar to Egypt, which is thickly planted and grows rapidly into a knee-deep mass of foliage. On good land it may be ready for cutting within fifty days after the date of sowing. The stubble is then watered heavily, and left to sprout again, so that another cutting is ready about a month later. This process is repeated until an average number of four cuttings has been taken, though this number may be doubled under good cultivation. An average "cutting" produces about 8 tons per acre, so that on good land the total crop obtained may amount to 50 or even 60 tons of green fodder from an acre of land during seven months.

Egyptian Clover.

Berseem thus has the advantage of being very prolific, and as it is practically free from any disease it constitutes almost the sole fodder-crop of Egypt. During the summer the animals are fed on the chopped straw from the *norag* and on beans, until the *berseem* crop comes on again in the next winter and spring. When it is intended more particularly to improve soil-fertility, rather than to provide fodder, it is ploughed up after only one or two cuttings have been taken. The nodules on its roots are occupied by bacteria which can take the free nitrogen from the air, build it up into compounds of nitrogen, and hand it on to the *berseem* plant, as in all other clovers. The prosperity of Egypt is thus dependent first on the activity of micro-organisms which are so minute that they will pass through the pores of a Chamberland filter, and second on the accidental circumstance of possessing this strong-growing kind of clover to flourish in conjunction with the bacteria.

Its cultivation is of the simplest, except that when desert land is being reclaimed there may be difficulties at first in getting those soil conditions which are suitable to the bacteria. The soil is laid out during October or November in square plots, separated by low banks, each plot having sides about ten yards long. The bank of the water-channel which runs past the field is cut in suitable places, and the water is allowed to escape into one of the square plots, thence into another, and so on, until each plot has absorbed sufficient water. The *berseem* seed is broadcasted on the surface of the water in these shallow ponds, and is left on the muddy soil as they dry up. In a few days it has germinated, to remain somewhat stunted for a little while until the bacteria have established themselves on the roots, and then the crop grows away rapidly. Subsequent waterings are given according to the weather and the circumstances. The crop is seldom used for making hay, but is either cut and carried off for sale in the fresh state, or more usually is fed off as it stands, by animals tethered to wooden pegs. A loose rope hobble round the fore-feet of the donkey, buffalo, ox, horse, or mule, prevents excessive activity, and the length of the rope measures out the amount which each one can eat before the peg is shifted. A quarter-acre of land under *berseem* will support a donkey from December to April, half an acre suffices for a horse or a mule, and a cow requires about two-thirds of an acre.

Corn in Egypt.

Corn in Egypt is proverbial, and we have already seen how for a century or two the country was the granary of the Roman Empire, being consequently entitled to special consideration on account of the economic pressure which she could exert by starving Rome. At the present time the corn crop is merely the food-crop of the country, and exports of it are practically nil. Meanwhile, the introduction of "American corn," or maize, has given Egypt two corn crops—wheat in the winter, maize in the summer. The latter is now the more important.

Egyptian wheat is curious stuff, judged by the standard of modern millers. Literally, it is the worst wheat in the world. The grains are irregular in shape, and the bread made from them is tough and rubbery, quite useless for the modern demand, which needs a light spongy loaf. Consequently, it is not used to make European loaves and rolls, unless when mixed with a large proportion of "strong" flour from Russia or America, but it makes fairly good bread of the native kind, which is prepared in flat pancakes. To supply the increasing demand for European bread, not only among foreign residents, but also among the wealthier natives, large amounts of foreign grain and flour are imported, to the extent of some 20 per cent. of the total consumption. The situation is similar to that which obtains in England, though the inferiority of Egyptian wheat-flour is much more marked. Any improvement in Egyptian wheat will have to take the form of growing a different kind, before it can be sold externally. There is, however, little reason why Egypt should try at present to develop an export trade in wheat or maize, so long as greater profits can be obtained from cotton. Even to grow all the wheat she consumes would need the development of a wheat-milling industry to prepare the flour for making the European kinds of bread. Thus, in the matter of wheat, as in other things, Modern Egypt is in a transition stage.

Egyptian Wheat.

The indigenous Egyptian wheats are bearded, usually with very densely packed ears, and with six rows of grain in the ear, instead of the two-row type grown in England. Of recent years Indian wheat has been imported and grown, and its cultivation is extending, this wheat being more like our own, and being more saleable. The difficulty with wheat in Egypt is to find a kind which will form ears. The ordinary wheats, even spring wheats, of England and America, are useless in Egypt; they germinate and grow strongly, forming a kind of coarse turf, but very few of the innumerable branches succeed in shooting up to form ears, and even so are very late.

Practically the only successful imported wheats are those from India and Algeria. Another asset of the poor-quality native wheats is their immunity from attacks of "rust" disease; in this respect also Egypt is a queer country, for imported wheat may be quite immune from rust during the winter, and then be destroyed entirely by the parasite in the spring as the weather becomes hotter.

The crop is sown broadcast on the mud of basin land. When grown on perennial land it is broadcasted on the dry soil, covered with earth by using the plough and the baulk of timber which takes the place of a roller, and then is watered; the land in the latter case is made up in embanked squares, as for clover, and is watered at intervals two or three times, the last one being given when the grain is beginning to set, if possible, so as to get a well-filled ear. The crop is sown in the autumn and is harvested in May, the reapers being provided with reaping-hooks, or sometimes pulling the plants up bodily, one man being able to clear an acre of land in about four or five days. In the dry climate of Egypt the straw and ear become very brittle, which is an advantage in threshing with the *norag*. The average yield of wheat from an acre is rather less than that of an acre in England. The price is very erratic, in a peculiar fashion; for months at a time it has been extremely profitable business to buy ship-loads of wheat in Australia and bring them to Egypt, where the price has been as much as 50 per cent. higher than the average wheat price of the rest of the world.

Straw.

Scarcely less important than the wheat itself is the crushed and broken straw from the threshing floor, which serves as summer fodder for animals, supplemented by beans and by the barley crop. The latter is rather interesting, because although the barley grown under irrigation is useless for malting into beer, yet that which is casually cultivated by the Bedouin along the western Mediterranean coast, by means of the winter rains there, is the best malting barley in the world.

From the fellah's view-point, however, wheat is a minor crop in comparison with maize. Wheat is more expensive, giving a smaller yield from a given area of land, and occupying the land for six months, as against three to four months in the case of maize. Moreover, maize is a general-utility crop; the young plants pulled out in thinning provide green fodder for stock, and the unripe maize-cobs make an excellent vegetable.

Egyptian Maize.

The crop may not be planted until the decree forbidding it is removed each year, when flood water comes in sight and the safety of the cotton crop has been assured. It is, of course, grown under perennial irrigation. The soil laid aside for maize after its winter crop of *berseem* or wheat has become dry, hard, and full of deep cracks, so that it soaks up large quantities when the water is run on; this is usually done about 15th July. In a week's time it is dry enough to plough, and the soaked grain is dropped into the furrow behind the plough, to be covered over. More elaborate preparation of the land does not seem to be of any advantage. It is at this point in the rotation of crops that the use of artificial nitrogenous manure is becoming more frequent, since maize responds freely to it; when such is not employed, camel-loads of *coufri* are brought and spread about the field.

The harvesting of the crop is done by cutting the stems with a reaping-hook, after which the women twist the ripe cobs off the stem and pile them up in a glistening heap; they are then threshed by the heavy wooden staff, which is the usual weapon of the fellah. Threshing and harvesting are the chief disadvantages of the maize crop for the large grower in any country, but they are corresponding advantages for the small holder of land.

It is quite possible that there may be a big future before the maize crop in the Nile Valley, though not in Egypt itself, which is too small. The Sudan has enormous areas suitable for maize cultivation, which only await sufficient population for their development. It is a crop which as yet has by no

means reached its rightful position in the food-supply of the world at large. Probably more maize is eaten than any other grain crop, but only a small proportion comes on to the European market. It has certain disadvantages as a bread-maker, which can be overcome by mixing it with wheat, and it is chiefly known in Europe in the form of special preparations, such as corn-flour and hominy, or the Irish stir-about. The fellah uses it for making the flat cakes of native bread, which are excellently toothsome when fresh; at times of high wheat prices in Europe a larger supply of maize would be invaluable for those individuals who were willing to eat this pancake-bread instead of the loaf to which they have become accustomed of late years. The existence of an alternative cereal food, grown on different areas from those which grow wheat, would tend still further to steady the price of bread.

Egyptian Cotton.

The conduct of the world's commercial affairs is a curious mixture of astuteness and blundering, of sordid fact and of enduring romance, and the trade in Egyptian cotton is no exception. A century ago the crop was unknown; to-day it links the fortunes of Egypt to those of every civilised country. Modern Egypt has two features of interest to the world at large; she is traversed by the Suez Canal, and she grows a special kind of cotton.

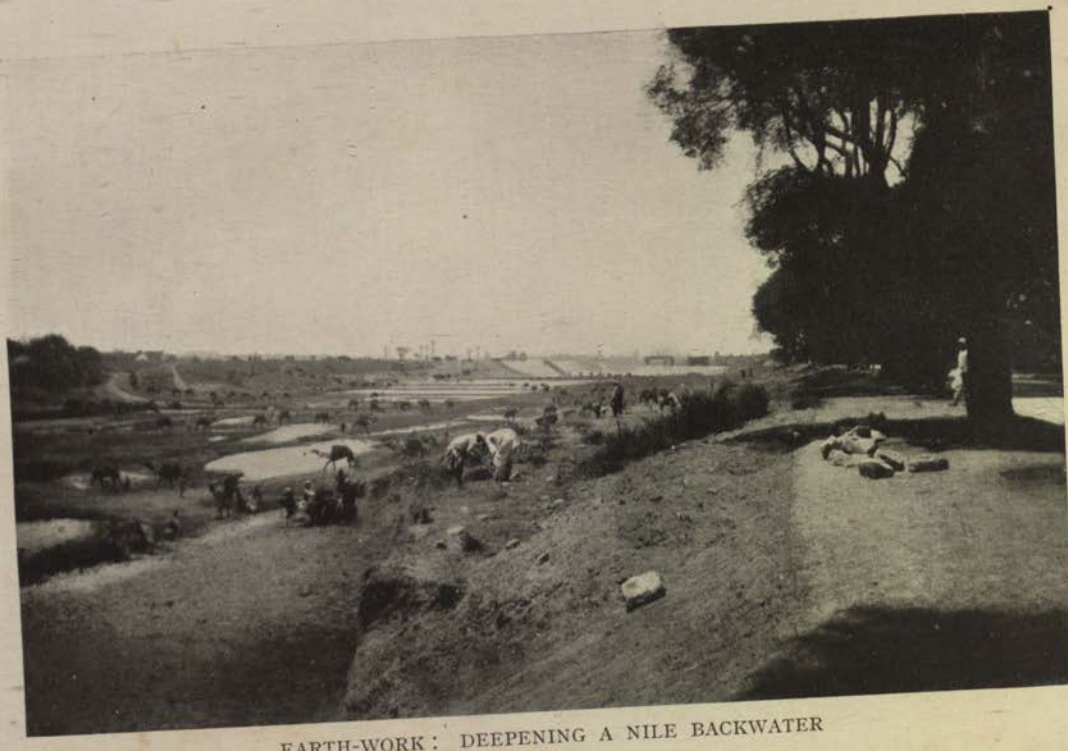
The day is long past when a cotton fabric was synonymous with an inferior fabric; plenty of cheap and inferior cotton goods are made, but the strength of aeroplane wings, of pneumatic tyres, and of dainty laces, depend nowadays on the once-despised cotton, and it is found in every class of textile goods, not merely imitating silk and flax and wool, but steadily establishing its own right to replace them on its own merits. For years past the demand for cotton has been rising, and the supply has scarcely been able to keep pace with the demand, so that the price has risen also. Consequently,

any country able to grow cotton profitably has been in a very fortunate position. Of such countries Egypt is the chief in spite of her small acreage, and in addition, the cotton which she grows is amongst the best in the world. Her export of this raw material is valued at twenty to thirty million pounds yearly, and in itself constitutes the chief source of the country's income. England has a primary interest in Egypt's cotton crop, since even at the present day some 40 per cent. of it is spun in Lancashire, and it may not be generally realised that manufactured cotton goods constitute the largest of all the exports from the British Isles. The Egyptian supply is used principally by the most skilful part of the trade, the "fine" spinners, whose products are more valuable than those of ordinary spinners, so that although the Egyptian crop is only about 6 per cent. of the total cotton crop of the world, whereof more than one-half comes from the United States alone, yet its value is greater than the mere quantity would indicate.

Natural Advantages.

For many years the impression gained ground that Egypt practically held a monopoly of a certain class of cotton, but the slightly lofty attitude which this belief engendered has led to the discovery that the monopoly was not absolute, and the future of the Egyptian cotton industry is now seen to lie in her immense natural advantages—irrigation, labour, and compactness—rather than in any special providence. Although the world has been fairly well surveyed for cotton-growing areas, no country has been found which can quite compare with Egypt; so that in spite of the risk of being dependent on a single crop for income from abroad, her course seems to be definitely marked out for several generations to come, as the country wherein the last refinements of agricultural science can be profitably applied to cotton-growing.

Cotton is a very old-established crop in Egypt, but not in its present form. No certain records of it are available before Ptolemaic times, but it was cultivated thenceforward in Upper



EARTH-WORK: DEEPENING A NILE BACKWATER

Egypt as a tree-cotton, and also in the Delta. The Delta cotton of those days was an inferior kind, similar to the present Indian crop. A local industry of hand-spinning and weaving was developed to consume the local product. In 1820 another kind of cotton of better quality was brought to the notice of Mohammed Ali, and with characteristic energy he promoted the cultivation of this new kind, altering the irrigation system of the Delta to fit it. This " Jumel cotton " was a perennial, or " tree " cotton, but other cottons were imported from America for trial, and ultimately the descendants of all these kinds bred out the modern annual varieties. The old Indian type of cotton had disappeared by 1850, and the last definite record of the Jumel tree-cotton is found a decade or so later. The production underwent numerous vicissitudes ; from 900 kantars—one kantar being practically 100 lbs. in weight—of cotton lint in 1821, it rose rapidly to 228,000 in 1824. Various causes affected the production, such as Mohammed Ali's wars in Syria and the Sudan, which drafted off the able-bodied labour ; 1830, 1837, 1845, and 1852, were the central years of productive periods, but even in the last-named year the production was only 670,000 kantars. There had however been a general increase, which persisted until the outbreak of the American Civil War in 1861, when the cotton-spinners of the world found their main source of supply cut off, and every country which could grow cotton proceeded to do so, including Egypt. In 1861 her crop had been 596,000 kantars ; in 1865 it was 2,140,000 kantars. The price had also soared sky-high, from 5d.–10d. a pound in preceding years, up to 22d.–31d. a pound in 1864. This boom came to an end with the signing of peace in America, but Egypt was now firmly established with a production of about 2,000,000 kantars annually. Further developments had to wait until the irrigation system had been developed, and after the British Occupation this process went on steadily until by 1900 the crop had exceeded 6,000,000, and a crop of 10,000,000

History of Egypt's Cotton.

seemed to be in sight. This was however the high-water mark of Egyptian cotton-growing, and further extensions of the acreage receiving summer water did not lead to a proportional increase in the crop, since the productivity of the average acre began to fall, and the largest crop yet attained is only 7,684,000 kantars. The cause of this drop in soil fertility was quickly traced to over-supply of water without corresponding drainage, but many years of controversy were wasted before this inacceptable view was confirmed. There can be no doubt that the old fertility will ultimately be restored, with an average yield of not less than 550 lbs. of lint per acre instead of the present 450 lbs., and the 10,000,000 kantar crop will then be produced with only a small extension of the present area.

The production of Egyptian cotton is limited, however, by the area available, since there is a certain definite maximum possible production (in the neighbourhood of 12 kantars), which an acre of even the best land cannot exceed, and probably the crop of Egypt will never be greater than 15,000,000 kantars, or about twice the present quantity. On the other hand, there are possibilities of almost indefinite extension of the value of the crop, by discreet and careful control of the seed-supply, and of the acreage under various kinds, and by study of the future demand for the purpose of supplying what is needed. The compact nature of the country makes such central control possible, but it will take many years and much study, both of the cotton plant and of the cotton trade, before any drastic steps at such control can be taken without causing general discomfort.

Possibilities.

Reduced to its simplest terms, the work of the fellah in cultivating cotton is very straightforward. It is, moreover, remarkably exact, and the more elaborately it has been investigated by scientists, the more definitely has it been shown that the customs of the fellah are justified by circumstances, even in habits for which he has been generally

condemned by experts or by critics. The crop has to be planted at the right time, which is practically constant from year to year in any one place, in soil which will not hinder germination; the plants must be set close together, but not too close, if the best yield is to be got from the land; weeds must be kept down, and water kept in, by constant hoeing, as long as it is possible to do so, and irrigation water must be given at fairly definite intervals. During the autumn months the crop is picked. The supply of manure to the crop will become more important when the interference of excessive water has been eliminated, but at present, so long as the soil is in a reasonably good condition, the *berseem* crop and the available farmyard manure are sufficient.

Theory and Practice Agree.

The factors which have made Egypt the most perfect cotton-country of the world—a cotton-laboratory would be a better term—are three-fold. In the first place, there is an ample supply of hand-labour at a reasonable price; cotton can be grown with the use of horse-hoes and similar appliances, but it cannot be grown to its highest productivity, because the plants cannot then be set closely together, and the best results can only be got by hand-hoeing between closely planted, closely-set rows; further, the harvest of cotton has to be picked from the open fruits by hand, and where labour is scarce and dear this item may cost half as much as the cotton is worth; the small-holding fellah, incredibly industrious in his patient way, and with a numerous progeny, solves both these labour difficulties automatically. There is, secondly, the question of temperature and climate; the delicate hairs of cotton which sprout from the seeds, seem to be of the best quality when the climate is such that growth proceeds rapidly every night, to be followed by a kind of "hardening-off" every day; under Egyptian conditions the checking of growth by dry hot air and strong sun is a very important factor in the growth of cotton, and indeed, were it not so, the cotton plants would be nearer 20 ft. in height

than 6 ft. On the other hand, if this checking process be carried too far, even for a few days, the plant is permanently injured. Thus the conditions in Egypt are such that the cotton crop is very delicately balanced between heat and cold; varieties which flourish in the Delta give an inferior product in Upper Egypt, and conversely, or change between various parts of the Delta itself. Lastly, though most essential of all the three factors, there is sufficient water available at all times of the year, in the amounts required; the cotton plant in Egypt is a glutton for water, and when the plants are large and the field is densely covered with foliage, 100 tons may be evaporated from an acre in two days only.

The crop is not planted on square flat plots, like *berseem* or the cereals, but the soil is made up into ridges about 30 in. apart. These are crossed at right angles alternately by single and double ridges, at intervals of 10 yards or so. The groove between the double ridges forms a distributing channel for water, which is admitted from it into successive groups of ridges. The seed is sown in March or April on the sunny side of the ridge, flowers appear in June or July, and continue to open until the autumn. Each flower takes from seven to nine weeks to develop into a ripe fruit, according to the latitude, but fruits which do not mature before the end of October are practically useless. The crop is usually gathered in three pickings taken during September and October.

By the month of July the cotton fields are covered with dark blue-green foliage, shading to yellow-green in localities where the plant is not so healthy, and this is spangled with the bright yellow flowers. In September the leaves are beginning to look less conspicuous, turning red and falling in some places, and the flowers are outnumbered by the creamy-white locks of cotton which hang from the burst fruits, giving a faint suggestion of a past snow-storm. Men, women, and children all turn out to pick the cotton out of the fruits, or bolls, stuffing it into the neck-opening of their long outer robe,

Picking the Cotton.

which has previously been tied round the waist tightly. When this convenient bag has been filled to bursting point the bloated picker walks off to the side of the field, where some sacking has been laid down, unties the girdle, and the contents of the gown empty themselves.

Since the cotton thus picked consists of seeds with cotton hairs attached, it has next to be packed into large sacks and sent to a ginnery, where machinery strips the lint, or hairs, from the seed. A part of the seed is kept back for sowing, but practically all the rest of the crop is exported, the seed being crushed to make cattle-cake and oil, the oil being used for soap and for salads also. The more valuable lint is compressed into bales and sent to Alexandria, where it is sorted and blended and again compressed into a solid mass banded with hoop-iron, to be shipped to Europe or to Liverpool.

In respect to its commercial treatment the Egyptian cotton crop is a model to the world, the whole system of ginning, merchanting, and exporting being centred in a few large commercial houses, who have their buying agents travelling in Egypt watching the state of the growing crop, who work their own ginneries and steam presses, and also have connections in Lancashire and elsewhere. Excepting that it is not easy for an exceptional small grower to obtain a fair extra price for a specially good lot of cotton, there are not many reforms needed on the merchant's side of the trade in Egyptian cotton.

The work of the ginning factories is done at high pressure, since they are closed for more than half the year, and is very efficient; each ginnery keeps one or more expert "carpenters" as they are called, whose pay is often greater than that of an English official of several years' standing, and whose duty is to keep each gin in full working order. These men, usually Europeans, have an uncanny instinct for gins; they walk round the machine with a spanner, touch a nut here and there, present it with a handful of cotton, touch another nut or two, and then give the word to start her up, whereupon a cataract

Instinctive Knowledge.

of white lint flows out at a rate of 120 lbs. an hour, where an ordinary engineer would not have been able to coax the machine into yielding more than 50 or 60 lbs. There are ginning factories in other parts of the world which are obliged to install two gins to do the work done by a single gin in Egypt, simply for lack of this skilled rule-of-thumb to adjust the machine. Even more queer is the instinct of the expert body of Graders, whose headquarters are in Alexandria; their profession is one which can only be learned by years of continual handling of cotton, in the light of one particular window for preference; only an odd man here and there among the thousands who handle cotton in Egypt attains to authority as a grader, and an Egyptian hardly ever. Such an expert may pick up a piece of cotton from the floor where it has fallen, and often will be able to state the actual district or even the village in which it was grown. It is a combination of instinct and observation, and is apt to go hopelessly wrong when dealing with unfamiliar kinds of cotton, but within the limitations of actual practice its accuracy is marvellous.

The strangest thing about Egyptian cotton is that this product, on which the prosperity of modern Egypt is built, is made out of air and water. The cotton hair is nearly pure cellulose, consisting of carbon, hydrogen, and oxygen only. The two latter elements come from Nile water; the carbon is assimilated from the air. Egypt's modern wealth could scarcely have a more flimsy basis.

The present "one-crop" system in Egypt needs briefly to be mentioned. The custom of depending almost entirely on the cotton crop for the national income has been widely condemned, since it renders the country dependent on fluctuations in the price of cotton which are mainly dependent on causes entirely beyond her control, *e.g.*, those which determine the area planted with cotton in the United States. On the other hand, provided that exceptionally prosperous years are duly

The One-crop System.

discounted as insurance against years of low price, and considering the present level of the fellaheen organisation and education, there is no other crop which would pay the country so well on the average of several years. Other crops may become equally remunerative, as the fellah becomes more capable of specialisation, but the trade in cotton is also specialising, with the supply insufficient to meet the demand. Up to the present time Egypt holds a lead over almost all the rest of the cotton-growing countries of the world in the quality of her product, and in the quantity produced from the available acreage, but—except on the commercial side—the industry of cotton-growing has taken care of itself, in the sense that no special measures have been taken for it which might not equally well have been taken for any other crop. A more intimate relation between the supply of Egypt and the demand in Europe would be to the advantage of all concerned, substituting a regulated supply of the varieties which the mills will most need, in place of the present unorganised system whereby each cultivator grows what he pleases. But it would be disastrous to interfere unless with certainty that the interference was for the ultimate good of all concerned, which certainty can only be attained by organising Egypt and Lancashire into co-operation, not to mention the Continental cotton-mills which take more than half the Egyptian crop.

Minor Crops.

Apart from these three principal crops there are many others, of which onions, sugar and beans are the chief. Egyptian beans and onions are well known on the English markets, some 70,000 tons of the latter being exported, but most of the sugar is consumed locally or exported to other countries of the Near East.

Since the *berseem* crop dies down in early summer a little lucerne is grown to provide green fodder for racing ponies and the like, but this is not a regular farm crop. Except

during the *berseem* season, Egyptian live stock has to live on dry food. Of other leguminous crops the chief are lentils, vetches, earth-nuts and lupins.

In Upper Egypt and the Sudan, the place of maize is taken by millet, which is cultivated in much the same way. Down on the salty lands of the cooler north there is an extensive cultivation of rice, partly for its own sake and partly because it will endure heavy over-watering, so that the soil can continually be washed free from the salt it contains, and yet produce a crop at the same time. Two or three other minor crops are grown under the same conditions, with the ultimate object in most cases of getting the land sweet enough to carry a crop of *berseem*, after which it will grow cotton.

Practically all the land which can be given water will grow something. Salt land carries rice, and very light sandy land will give the best earth-nuts. The light soils of the islands in the Nile, and the sand-banks and alluvial stretches which the water covers in flood-time, are good places for onions and for the great red-fleshed water-melons.

Flax was formerly a staple crop in Egypt, and all the mummy-wrappings of Ancient Egypt were made of it, as were even the pre-dynastic textiles; at the present day it has almost disappeared. Sesame is grown for the edible oil from its seeds, and fenugreek seeds are also used for flavouring. Dye-stuffs are obtained from indigo, safflower, and henna, though none of these are important crops; the use of henna is widespread, the tip of the donkey's tail and the palms of its owner's hands being both dyed to a yellowish-red colour.

Fruit culture in Egypt has immense potentialities, subject to the development of skilled packing and rapid transport to Europe, but the methods of the country are too casual as yet. Large quantities of fruit are grown, though rarely of a superior quality. The dessert table is supplied with a succession of fruits through the year; oranges and the mandarin during the winter, followed by figs, bananas, dates, melons, grapes and water-melons, back to oranges again. These are

supplemented by a very poor apricot, by pomegranates and mangoes, strawberries of a sort, mulberries both white and black, with lemons, olives, loquats, peaches, and sycamore figs.

Vegetables also are abundant, both those of northern climates and tropical ones being cultivated, in winter or summer respectively. Garlic figures in most native menus, and scents the habitations of Eastern European residents. The use of salad amongst the more fastidious white residents is hampered by their uncertainty—or rather, their certainty—as to the nature of the water in which it has been washed; the banks of a canal being used indiscriminately for personal ablutions, laundrying, watering animals, and the preparation of food.

CHAPTER VIII

THE FELLAHEEN

" Not the great or well bespoke,
But the mere uncounted folk
Of whose life and death is none
Report or lamentation."

—*Rewards and Fairies.*

" The toad beneath the harrow knows
Exactly where each tooth-point goes.
The butterfly upon the road
Preaches contentment to that toad."

—*Padgett, M.P.*

FOR the traveller who treats time irreverently there is no difficulty about travelling within the cultivated area of Egypt. A net of railways webs the Delta, and threads the narrow valley of Upper Egypt for six hundred miles, linking on to the Sudan lines by river steamer, and so one day to the Cape.

Travelling about Egypt.

Beyond the main lines of railway with their dining-cars and wagons-lits, there are branch lines which serve their purpose, and beyond these are the light railways, chiefly notable for the crescendo of bumps which mark the stopping and starting of bufferless coaches ; these are largely laid down on a system of agricultural roads which was started in 1889. Beyond these again—for even in Egypt the rail does not go everywhere—there stands the patient donkey waiting outside the station, variously attired, from the essential simplicity of an old sack and a stick, to the red velvet and silver tassels of dignity. The caparison varies with your personal status, also with the expectedness of your coming, but there is always a donkey, and it will carry you to any destination.

A few years ago these stages of increasing deliberation in progression were taken for granted, and many points in the

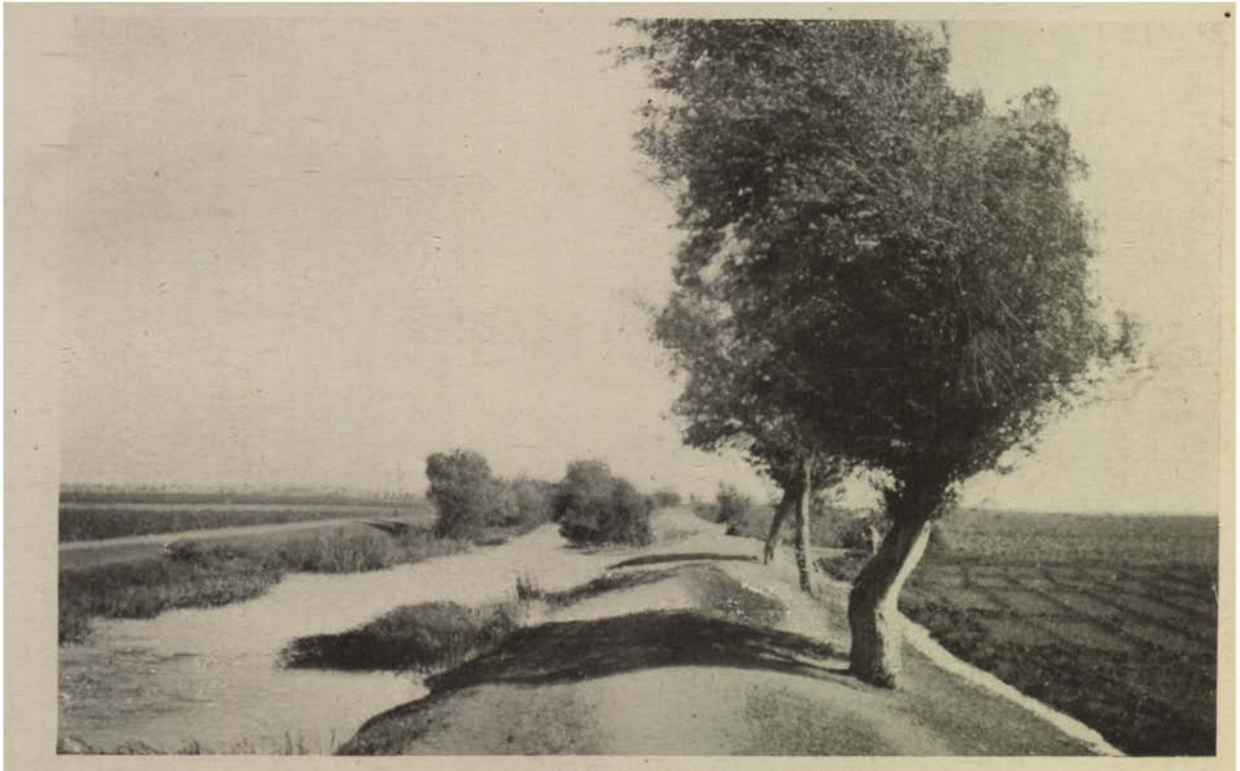
Delta—a triangle of little over a hundred miles' side—were a day's journey apart. Egypt was quite a big country for its size. Then some misguided adventurers took motor-bicycles out of the towns, and showed that by steering a breakneck course along the extreme edge of the dusty tracks on the top of canal banks it was possible to traverse all the Delta in a day. Now the guileless fellah stealing water from a canal out of his duly-appointed turn, finds retribution rushing on him at most unexpected times from underneath the white sun-helmet of an inspector, which slides through the green crops with indecent speed. Some of the tracks trodden by generations of camels have been watered and levelled into dirt roads, even metalled in places, and the motor-car has followed its more agile relation. Presently we may see the highest authorities making a daily survey of the state of the country from the air, and then Egypt will be too small to be comfortable for good honest rogues. Perhaps, on the other hand, these roads may fade away, as their predecessors have done. The aeroplane would be much safer than the motor-cycle, for the Dust of Egypt, besides being immemorial, produces the most complete and long-drawn-out agonies of side-slip; let the rider deviate but a few inches from the narrow margin where countless naked feet have trodden it into firmness, as may well happen when a ten-inch gulley is suddenly encountered, or when a leak from the irrigation of the neighbouring crop has softened the dust to bottomless slime, and he is lucky if he finishes by merely facing in the opposite direction, still travelling. It is more likely that he will disentangle himself and crawl out of a canal, to maintain his dignity and supervise the salvage of his machine as best he may. Shins mangled by kick-starters, carburetters choked with mud, and practice in the art of stowing motor-cycles on camels, have been additional items of the "white man's burden" in Egypt lately.

Whether on foot or on wheels, however, the scenery is the same, and the dust. Those who do not know the Fens and

the Broadland compare the Delta to them, most unjustly. The Delta is artificial, swarming with humanity, and has no grass. In general appearance it is unattractively monotonous, though here and there a few trees assert the existence of a forgotten third dimension. The flat expanse is cut up into irregular patches of browns and greens; somewhere in the distance the view is closed by the high banks of a canal, mostly bare earth, from which run minor canals ramifying in all directions through the fields, their banks serving as footpaths and roads, while sometimes a row of trees along them makes—to a western eye—a beauty spot. Apart from these trees, which scarcely break the skyline, the only salient objects are the minarets of the mosques in villages, which are visible in all directions, raised above the level of the land to an extent which is proportional to their age, for these village *koms* are stratified in layers often so long accumulating that the relics of Rome are not even near the bottom of the pile.

The Countryside.

Scattered over the fields is the population, at work on the sole trade of these country districts, the growing of crops. Ploughing with oxen on the plough which dates back to Ancient Egypt in its material and construction, hoeing with the adze-like *fass*, opening the side of a ditch and steering water into furrow after furrow and plot after plot, toiling at water-lifting implements, sowing and harvesting two crops on every piece of cultivable land each year, the work goes on. It is remarkable work, more remarkable than it appears to be, and quite unlike the intensive cultivation of the Chinese, who pinch and persuade each plant into doing its best individually. The fields look untidy, to the critical eye; furrows, ridges, and banks are sufficiently approximate in their straightness to spoil the sleep of an English ploughman, weeds flourish on the banks of the ditches, and the agricultural reformer runs round foaming over the apparent waste of opportunities. But every foreigner who has farmed in Egypt has been obliged



IN THE DELTA

to use native labour, whatever his initial convictions may have been, and even apparent deficiencies have their justification under existing circumstances.

Presently we approach one of the smaller villages, a compact clump of box-like, mud-walled, single-storey houses, built close up to the canal bank along which we have come, with a clump of sycamore-figs raising a shady crown of foliage on gnarled and knotted branches at one corner, and a cluster of date-palms lifting their spiky crowns on the far side. The women of the village, clothed in black, are washing clothes and vegetables indiscriminately in the canal, small children are playing about, exactly like any other small children, and we turn in through a wooden gate at a gap in the mud walls, into the main alley. There are no nice gradations about entering the village ; no suburbs, nor front-gardens, nor even back ones ; either you are in the village, or you are not. If you are not in the village you must be on the canal bank or in the fields, unless the canal itself or the cemetery have claimed you. The village forum under the sycamores, on the cooler northern side, scarcely merits to be distinguished from the fields into which it merges. There is nowhere else to go.

A Cramped Existence.

Such an environment might very well induce a limitation of mental outlook, coupled with a surpassing shrewdness over those details which are the essentials of existence thus restricted. Although the Egyptian takes very kindly to the "road of iron," as the passenger receipts of the railways show, there must be many yet who have not moved out of sight of their native village. An informal census taken in a High School at Cairo, among the first year students, not very long ago, showed that one boy in every three had never seen the Nile, which ran within a mile of the school ; their homes were on the other side of Cairo ! A fellah boy had been born and brought up in a village which formerly stood on the Gezira at Cairo, a large island in the river, within a quarter

of a mile from the only road into Cairo from the west. The island is half a mile wide where this road crosses it, but the boy had never been across either of the two bridges. His world was half a mile in width, and a flat half-mile at that. These are extreme cases, but drawn from metropolitan examples. It would have been easy to match them thirty years ago from the country districts of England, where, as in Egypt, they are becoming rarer.

In a Village.

Inside the village, between the mud walls run narrow alleys. At one corner we look into the village bakery, an important institution in this society, for we are near to the foundations of existence; there is soil and water outside the village, and here their product is turned into food. The tiny court contains two women stirring dough, and deftly patting lumps of it into circular sheets, which are forthwith transferred to the floor of the dome-shaped oven built against the wall of the inner room, to emerge later as the spotty brown pancake-like objects, excellent when fresh, but leathery beyond description in their old age.

The houses lining the alleys are mostly constructed on the same plan, a fore-court of which the high mud wall forms the side of the alley, and one or more rooms behind it. The roofs are piled high according to the season with stalks of maize or cotton, among which the meagre fowls and a casual goat take a breath of fresher air than they can obtain at ground level. The chickens eat anything, and the goat can eat everything.

Sanitation.

The air on the roof may be fresher, but it is just as full of flies—many to each cubic foot—as in the alley below, where the acrid smoke of the little dung-cake fires fills the nostrils before the morning and evening meals, while for the rest of the day the most intricate smells of swarming humanity, animals, and garbage, struggle through the fundamental odour of sun-baked dust. The village is not a clean place, though its

Moslem inhabitants are strict in their personal ablutions, and the men fill up odd half-hours by removing garments and chasing elusive insects, in public. After all, it is difficult to do much in the way of sanitation when the population of an English market town is living on an area smaller than its market-square, and the antiseptic action of the glaring sunlight is very powerful. Tell the fellah of the virtues attaching to free light and air and spaciousness in a village; he will ask why good land should be wasted under houses, why he should let the sun reach him when he needs shade, and why worry about houses at all when one can sleep outside for more than half the year? He has a definite point of view. It is curious that he does not like the sun particularly, though he wraps up his head and looks miserable in cold weather, and will work all day in a skull-cap under which most Englishmen would be dead from sunstroke before noon.

The mud walls of the houses rise sheer from the dust of the alley on both sides, leaving barely room for a laden beast to pass. Tumbling and squatting in the dust are the younger children, each with an indeterminate number of flies rosetted round each eye. The grown-ups bore similar clusters in their own childhood, so that they still regard the nauseous and suggestive promenade of a fly with tolerance which is quite unattainable by white men. Hence partly is derived the abundance of eye-diseases among these people, not one in twenty being entirely free from them, while nearly a tenth have only one sound eye. Medical examination of fellaheen for the sight of an eye often begins by the doctor holding up his open hand at five paces, and getting wild guesses as to the number of fingers shown, though only extreme agitation hazards a guess of "six."

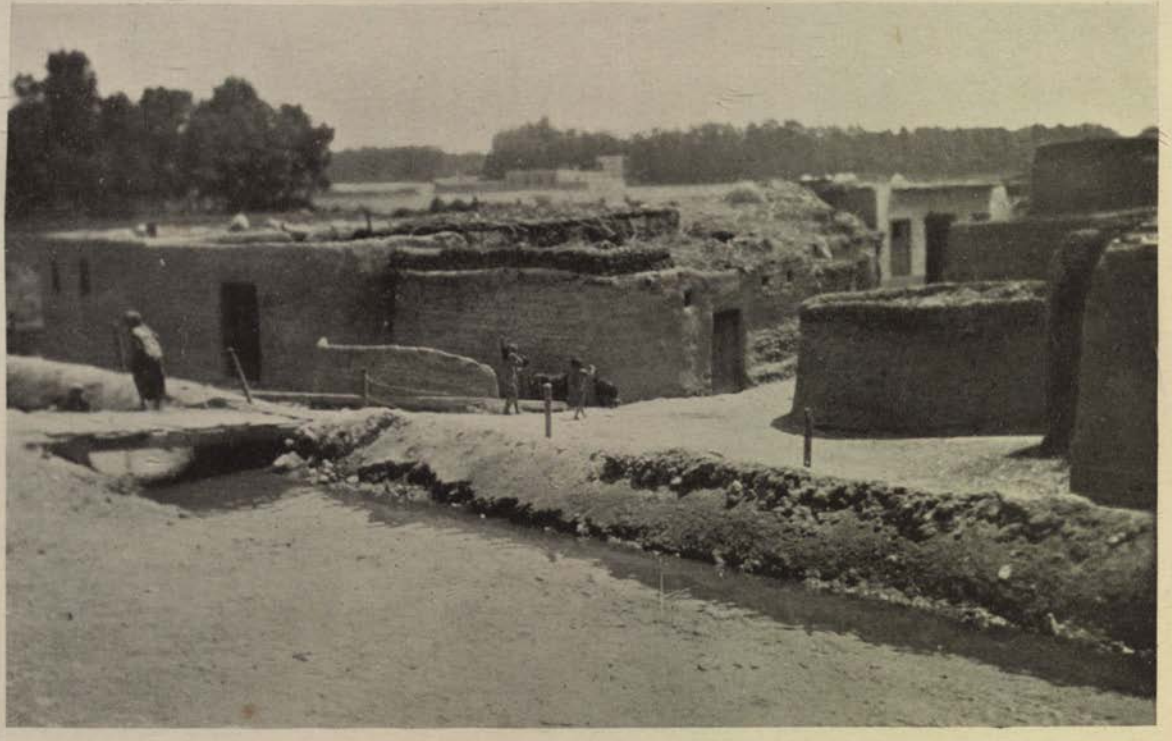
The older children are perplexing. In one family may be found a slow heavy lad, with a brother whose face is of the keen Arab type, while yet another brother is many shades darker in colour, thick-lipped, and with an engaging grin. Any theory of human heredity would be hard driven to account

for these divergences unless we knew that divorce was easy, often casual, and that any acknowledgment of a female side in any pedigree is beyond practical politics. Yet the care of aged parents and the exercise of charity, as enjoined by Islam, are among the best characteristics of the Egyptian.

A little detail of the alley which strikes the visitor is the curiously "woody" appearance of the woodwork. Mud and wood seem here to be the natural complements, one of the other, dried by the sun and untouched by paint, except perhaps outside the home of a villager who has recently made the Pilgrimage. Then the mud wall is smoothed with plaster, and on it is depicted the sacred journey; a queer suggestion of Ancient Egypt clings to these crude wall-frescoes, though there is no real trace of direct influence. The colours of the very puffy railway-trains and the feather-brush palm-trees, staring from the white plaster, stand out vividly in their dull ochreous surroundings.

Colour Effects.

Although the prevailing colour of the village is mixed from mud and dust, it is not altogether monotonous. A deal of rabid optimism has been wasted on the colouring of Egypt, though an English spring can beat Egypt entirely for sheer beauty. The feature of Egyptian scenery—except at sunrise and sunset—is the crudity of the colour contrasts under the glare of the sun. Looking along our narrow alley there is dust under foot, earth on either hand, and dust in the air; on the sunny side the dirt glows warmly, in the shade it is deep umber and ultramarine, and the sky is not the blue of the north, nor of the winter months, but is a deadly coppery grey. Round the corner comes a mouse-coloured donkey, only his head and legs visible under a load of dusty clover, and the clover seems to be the greenest thing in the world. Presently a door opens, and a splash of gold tumbles out; further observation turns the dazzling object into a small maiden, incredibly grubby, clad in a yellow cotton robe which is ripe



A NATIVE HAMLET IN THE HOT WEATHER

for the rag-bag, her sun-stained brown hair plaited into a pig-tail with horsehair.

The picturesque effect of these colour contrasts is apt to bewilder the other senses. Scientists tell us that man's ancestors owned brains in which the sense of smell occupied a greater proportion than within our eye-specialised heads. This is just as well, for a view of Egypt naked, unashamed, and held up to irreverent comparison with Europe in the grey twilight of a total eclipse, is very mournful.

Still, in spite of dirt, insects, and disease, the fellah carries a pair of shoulders which will lift most things, and legs which will bear any burden the shoulders can hold.

But— He will carry on with monotonous work, day in and day out, which would kill most trade unionists by its combination of fatigue and boredom; social reform would probably kill him; and——there are a thousand fellaheen to the square mile in these agricultural districts, living on, and with, and in the soil.

One of the chief events of the fellah's year is the great Mouled, in honour of Sidi Ahmed el Bedawi, at Tanta. This fair is only one of many which are held in various places and at various times during the year in Egypt, but it is the greatest of them all, partly from the sanctity of the Sheikh, and partly from the central position of Tanta in the Delta. It is worth more than passing mention, if only because of the contrasts it offers between the old and the new. Its importance as an annual event may be judged from the fact that in certain years the Government has found it necessary to prohibit the holding of the fair until all danger from the cotton-worm was over, since—had the fair been held—there would have been no adequate labour to deal with the pest at a critical time. Like all Moslem festivals, it is held about eleven days earlier in each successive year, the years of the Hegira calendar being shorter than the solar year. The experiences of an

The Great Fair.

Egyptian at Tanta Mouled have been portrayed by Pickthall, as he alone could do, and a more prosaic account of the Mouled itself will serve our present purpose.

When the date of the opening of the Mouled approaches, the railway administration prepares for a service of special trains to Tanta from all parts of the Delta and Upper Egypt. Thousands of the inhabitants still make the journey by road, but tens of thousands come by rail. The " Tanta specials " are made up of all the available rolling-stock, not merely of ordinary carriages but of flat-cars as well, and train after train pulls into Tanta loaded with humanity, singing and shouting at the sight of minarets of the Sidi's tomb. Travelling on the roof is forbidden, but ineffectually. The crowd unpacks itself and tumbles out in a solid stream, to make its way to the mosque and to the fair ; men, women, and children, the latter bearing bundles of bread and blankets, gaudy tin-bound suit-cases, and other provision for the great week. Meanwhile the canal banks and fields for miles round are dotted with processions of travellers on foot, on donkeys, and on camels, each procession usually derived from the inhabitants of one particular village, headed by one of the village members of a Dervish order on a camel, and enlivening the dusty way with the throb of the little native kettle-drum, with the liquid notes of the reed-pipes, and the shrill tongue-fluttering trill of the women's *zaghareet.*

Travellers to the Fair.

The fair itself is held on land almost immediately adjoining the railway station, on the western outskirts of the town ; this land remains under cultivation until the tents and booths are actually being erected, and at the end of the fair the ploughs start work again on the trodden dust in between the parties of workmen who are engaged in pulling down the tents. A large open space, several acres in extent, is surrounded by the temporary structures, while its upper end is roped off to contain the pavilion of the governor of the province,

In the Fair.

made of the parti-coloured patterned tenting, which serves as a reception room; on the last days of the fair the governor gives a dinner to notables, native and European (including ladies of the latter, but not the former), consisting of native dishes up to twenty courses, and served in Turkish fashion on the circular brass tray-tables, though with the concession of knives and forks to those who desire them.

All round this central space rises a mushroom town, with all the fun of the fair, and its vices as well. The enterprising Greek runs a circus, with a clown whose jests are of the broadest, and a band at the entrance which strikes up the Khedivial hymn, or used to do so, when a party of officials patronise the show; a circus horse whose finery is held together with string, and a lady tight-rope walker in tights. At the ring entrance is a perilous scaffolding, with a ladder and chairs for the accommodation of distinguished visitors. The most interesting part of the circus is the audience, with faces of every colour and garments of every hue, from the blue shirt of the Fellah to the red *tarboosh* and European clothes of the *blasé* clerk. The Fellaha girls nudge one another and look shocked or envious at the sight of the tight-rope dancer, while the open mouths of the less sophisticated men proclaim their interest widely.

Two special industries go on within the fair in the making of two delicacies, for the Egyptian is a child over sweetmeats, one being a kind of parched pea, and the other akin to barley-sugar. The sugary mess is heated in pans, and the ropy stuff is drawn out, thrown over a peg fixed in the tent-pole and drawn again; just at the breaking point it is caught up, doubled, thrown over the peg again and drawn again, the process being repeated until it is all converted into a rope of fine threads, which is then twisted up and cooled. It need hardly be added that the operator spits on his hands during the process to keep the sticky stuff from adhering to them. The peas are roasted in an earthen structure with a sloping pan on the top and a fire below, and very good they

are; every pilgrim to the shrine of Sheikh Ahmed, and to his fair, takes away with him a large frail-basket full of these peas as a matter of duty as well as of pleasure.

So far, and very much further, by day. At night the spectacle is one to be remembered. The crowd becomes denser and still more dense, impossible though it might seem, until the very ground is hidden. In the tents surrounding the central space the light of paraffin flares and lanterns throws the occupants into vivid relief; the various Dervish orders who have been holding their *zikrs* in these tents redouble their activity. Round the sides and entrance of each tent is a dense throng of onlookers, from which the central ring of devotees is constantly being recruited as places fall empty through the collapse of performers. Passing by tents where a *zikr* has only recently begun, we stop in front of one where the performers have worked up to high pressure; there are few stranger sights in Egypt. A score or so of men in turbans and long robes are standing in a ring, swinging their bodies right and left in unison, turning the head till it looks over each shoulder alternately, chanting with every swing the Name of Allah,, and every moment increasing the pace, till man after man falls exhausted and foaming in the stuffy, dusty heat of the summer night, to be dragged out of the circle and replaced by another volunteer from the crowd. Brain and eye grow dizzy with a few minutes mere watching of these devotional exercises.

Devotional Exercises.

Perhaps the strangest experience of all is to drive in a motor-car through this crowd on leaving the Mouled at night. Motors, it may be remarked, are novelties at Tanta Mouled. There is no road, not even a path, but only gaps which are packed solidly with people. The car purrs quietly, sliding along at a minimum speed with the clutch slipped every few seconds, and the radiator quietly pushes those who are too deaf or abstracted to hear the horn or to notice the torrent of

An Egyptian Crowd.

complimentary remarks from the native chauffeur. There are not six inches of clear space in front, on either side, or behind the car; it is deeply embedded in the crowd, which yields to its passage and closes again like a stiff and treacly fluid. The road leading over the railway bridge outside the fair is even more densely packed if possible, and the stiff gradient over the bridge is made still stiffer by some half-a-dozen or so of joy-riders on the rear springs. Something has to be done; the chauffeur lets out the clutch and delays to put on the brake, running back a dozen yards to gain space for enough impetus to advance twenty yards, and thus, "daped above the pit on the end of an uncoiled solar plexus," the top is finally reached.

The last night of the Mouled comes to an end, and in the dawn the canvas town melts away. Within a month the site of the fair will be green fields again. The "Tanta specials" are pulled out of the sidings, their passengers are shepherded into enclosures labelled according to their destination, where they squat peaceably and wait, as the enclosure grows fuller and fuller, until its contents are disgorged upon the platform, with their luggage and their baskets of peas, to coil up in the flat-cars and depart, blessing Sidi Ahmed el Bedawi of pious memory, as the twin minarets of his mosque sink below the sky-line.

Origin of the Modern Egyptian.

For many years it was thought that the fellaheen were a mixed race, mainly descendants of the Arab invaders, and the belief still seems to persist, for the traditional American girl is said always to remark excitedly, "Say, paw, there's an Á-ráb," as the liner enters Alexandria harbour. As a matter of fact, the actual number of foreign invaders, whether Persian, Greek, Roman, or Arab, was never large in comparison with the total population of Egypt, which was able to absorb all the immigrants who thus settled down in the valley, without producing any marked effect on the race

in the country districts. The method of peaceful penetration was more important, being continual, and there is a very distinct strain of Mediterranean peoples recognisable in the Delta inhabitants, even so far back as the days of the Pyramid-builders. Upper Egypt was similarly affected at its southern end by Nubian immigrants, and at the present day the people of the central part of Upper Egypt are probably nearest to the ancestral stock, simply by virtue of their geographical position. The Nile valley was like a long pipe, stuffed full of inhabitants, into which foreigners could only diffuse very slowly at either end.

In the towns the case is different, the urban population having been more closely in contact with foreign people, and among the upper classes the practice of keeping slaves, both black and white, together with polygamy, has helped still further to complicate pedigree. It is doubtful whether such a thing as a real Egyptian existed in the higher ranks of society twenty years ago; the male side of the pedigree may have been such, but the female ancestry is left out of account, and this half is almost certain to include Turkish, Georgian, Circassian, Abyssinian, or Sudanese blood at some remove. Of late years the increased wealth of the country has brought the old fellah stock into greater prominence, several able men from it having risen to influence, and the snobbish attitude towards it is growing weaker. The lack of regard displayed towards the female side of the pedigree is the more surprising when one considers the remarkable differences of personality within, for example, the late Khedivial dynasty, which are directly traceable to maternal inheritance.

In spite of the fixity of racial type in the Egyptian proper, he has not come down through the ages without some change.

Ethnology.

The earliest human remains known in Upper Egypt are those of a rather small people, of feeble muscular development, with dark hair, but quite devoid of any negro features. The head was long and narrow in front, but swelling out behind; this gave a

THE POTTER'S WHEEL

rather long, narrow face, but the nose was flatter than that of the European, in combination with a pointed chin and rather flattened eyes. The resemblance of this people was rather to the other Mediterranean races, and especially to those of Libya, to the west of Egypt. Even these pre-dynastic people were not new to the Nile valley, but had specialised there, while other branches of the same stock were developing into Berbers and Arabs on the west and east of the Nile.

In the early dynasties the cemeteries of Upper Egypt show some change to have taken place ; individuals being found of a rather more robust, longer-nosed, and more flat-headed type, mixed with the pre-dynastic people, and due probably to the closer intercourse which took place with the Delta, when the Red and White Crowns had been united under Menes. By this time the cemeteries at the apex of the Delta showed a more advanced stage of what was probably the same process of admixture, due to immigration from Mediterranean countries to the Delta during pre-dynastic times, of which no remains are left, and the historic Egyptians would seem to have been the result of this admixture. Since then the population has not had time to be greatly changed, except in the ranks of the aristocracy, who intermarried with the families of foreign princes. The modern Nubian is a blend of these old Egyptians with the negroid races of the Sudan.

This comparative identity of the modern fellah with the Ancient Egyptian is the principal thing to bear in mind when considering the present status and future potentialities of the common people. Almost equally significant is the existence of the two " mental races," the Copts and the Moslems, within the old Egyptian race, which we have already discussed. The question then is, whether the Egyptian people are capable of improvement ; if so, how such improvement is to be effected ; and, whether it could be directed along lines which would be advantageous to Egypt herself and to the world at large ?

Essential Facts.

It may be very fairly held in opposition that the present

state of the fellah is sufficient. He has reasonable security, justice, and water; his tastes are simple, and in virtue of that simplicity he is prosperous; mere progress for the sake of progress would unsettle him, and spoil a state of existence which, if not idyllic, has points of advantage over the sweated labour of a slum in more "civilised" countries. Clearly, by virtue of the latter comparison, no mere zeal for progress can be justified. To raise his standard of luxury, encourage an eight-hour day, and increase his wages, would leave him far poorer than he is at present. Egypt is a simple country, (except in politics and diplomacy), made of earth, air, sun and water, and the life of the people must accordingly be a simple one.

The Shrinkage of the World.

On the other hand, Egypt has immense agricultural potentialities; as the producer and purveyor of plant products to the world at large, she has scarcely yet begun a development whose course is already foreshadowed by her supply of grain to the Romans, and of cotton to Lancashire. There is no possible return for her now from this path, in a world which is rapidly shrinking under the influence of rapid transit. The land is too reliable and prolific not to be exploited in this way, and if the Egyptian cannot do it under the protection of Great Britain, other labourers will colonise Egypt, however much it may go against the wishes both of the Egyptians and of the English, and will supplant the fellah by sheer commercial competition, against which the best-intentioned rulers are ultimately powerless. At the present day, and under the present conditions of Egyptian agriculture, such supplanting is more than unlikely; it is impossible. The fellah as an agricultural labourer can give points to most people, except possibly the Chinese, and it is extraordinarily interesting to note that in the 'seventies of last century the Khedive Ismail actually considered the possibility of importing such Coolie labour from the Far East. This little fact in itself indicates the progress which the fellah has made during the intervening

period, for, in spite of his disadvantages, hardly anyone would nowadays dream of making the change. The question is rather as to the future of the Nile Valley as a whole.

Egypt and the Sudan.

In the Sudan are immense areas capable ultimately of producing ordinary crops, and ordinary grades of crops, in abundance, but, just as in the matter of cotton to-day, there are only a few parts which can compare with Egypt. The Nile Valley therefore will certainly become a great crop-producing country, with an enormous range of effective climate for the purpose, with a corresponding variety of products, united by the Nile as its common interest, and specialised to various degrees in various districts. Some parts will remain for centuries under simple jungle-cultivation, while others will develop the growing of the most valuable crops. As yet we are scarcely accustomed to the idea of "skilled labour" in connection with agriculture, but such products as a fine Havana leaf, cotton which will spin 200 miles of yarn out of a single pound, or the gardening of medicinal drug plants, may serve as illustrations. In all agriculture of this type, skilled agriculture, Egypt has natural advantages which no other country possesses; this is a sweeping statement, but it is not made without due consideration. Certainly she has advantages over the rest of the Nile Valley, if only from her seaward and northern situation. To realise these advantages, she *must* possess also a class of labourers who are able to work with their heads as well as with their hands.

Future Egyptians.

Therefore it would seem that, without adhering to any fetish of Progress with a capital letter, we may expect that the tendency of the future will necessitate the development of a superior grade of Egyptian, a mental race possessing the physique of his ancestors.

It must not be gathered from this analysis of the situation that the modern fellah is simply an unintelligent brute beast who works and works, and never thinks. As in any other

race, individual fellaheen differ, but within the last few years we have come to a fairer appreciation of the skill displayed in his agricultural operations. Many of those habits and customs which he practises in the growing of plants have been widely condemned, and yet have been shown to be thoroughly justified when intimate scientific and economic investigation was brought to bear on them, the reasons for any particular practice often lying far too deep for casual observation to detect. On the other hand, most of these customs are traditional; the experience of the individual, and of his fathers before him, had shown such and such a proceeding to be the most profitable, though it is noteworthy that his peculiar methods of cultivating the modern annual plant of Egyptian cotton cannot be much more than sixty years old. But, on the whole, thought is at a discount, and a blind adherence to routine can take its place. When a sufficient summer supply of water was assured to the country, the fellaheen proceeded to over-water their crops wholesale for a few years, driven to do so by the tradition of past generations who had struggled past the verge of drought; already, however, the folly of excessive watering has been recognised, and the practice is dying out, though the fellah will never be penurious with his water supply. Similarly, when the leaf-eating cotton worm became a serious pest, the Government had to step in and compel him to clear his fields, pointing out that it was not a divine judgment, but a caterpillar which hatched out from an egg; his inertia here was probably in part due to the knowledge that it was very little use to clear his own fields of the pest unless his neighbours also did it. He has been condemned again and again for practising too exhaustive cultivation of his land, but a careful study of farm balance sheets has shown that the man who grows cotton every other year makes a definite profit over his neighbour who uses a three-year rotation. He has been condemned for slackness in delaying to plant his cotton, the assumption

Skilled Farmers.

being that earlier-planted cotton will give an earlier crop; we now know that the conditions of seedling growth in Egypt in the spring are so peculiar that there is no advantage whatever in planting before his conventional date.

All these examples, and many others, have led several thinkers to realise that the fellah, within the limitations of his present environment, is far from being the incompetent though industrious drudge we have often imagined him to be. His reasons may not be vocal, and he may not even be able to disentangle them as reasons at all, but they exist, none the less; the methods satisfy that test which is, after all, the crucial test of the farmer,——they pay him!

Religion.

There is also the question of religion involved, an exceedingly delicate matter. Its importance in moulding the character of the modern Egyptians has perhaps been overrated. That it possesses a certain definite influence may be seen by comparing the Moslems with the Copts, as masses, but if that influence be regarded as a "selective" one, and if we consider the matter from the individualistic view-point, as it is proposed to do, it will be seen that Islam is not inevitably a clog on racial development, and that such development might well, in its turn, react on the dogmas which have overgrown the fundamentals of this powerful creed. The next step, therefore, leaving the religious difficulty to take care of itself, is to see what paths might be taken, consciously or unconsciously, towards such amelioration of the condition of the fellah as seems reasonable to anticipate.

First Essential.

The first condition, as we have already seen, is that whatsoever change may result must be such a one as will keep the Egyptian "on the land," since it is the place where he is most useful, where there is a special future for him, and where he can not only be most at home, but of greatest use to the world in general. The development of the fellah into a town-dwelling clerk

is out of the question. His instincts, history, and interests all point to the soil.

The second condition may be summarised as follows: that this change cannot be effected by education *qua* education. On this point, as a general issue, the author has long held definite opinions; these have been immensely strengthened in the particular case of the fellaheen by some personal experiences which it will be necessary to relate, even at the risk of abandoning an impersonal discussion of the subject.

Second Essential.

The middle of the nineteenth century in Europe was marked by a lively public interest in educational matters, which affected Egypt also. Compulsory education began to appear, and the elevation of the masses by the medium of the school became practical politics. It is now being borne in upon us that education in itself is only mental nutriment, and in itself cannot improve the race, though it raises the general level of efficiency in the particular generation which has been educated. We may cultivate a plot of couch-grass with infinite care, making a handsome patch of verdure, but its seed will not give rise to a crop of wheat. Moreover, education in some respects augments the difficulty of the problem which it sets out to solve, since it gives a further means of differentiating between individual men and women, by increasing the opportunity for each one to display his or her peculiar capabilities. The result of this has been the coining of a term, "the scholastic ladder," which conveys a truth in an untrue metaphor. The ladder is actually a sieve; the successive grades of scholastic and university education serve as a series of sieves, retaining an individual here and there to be tested in the next grade. The primary justification to some thinkers for general elementary education is that it starts the sifting process from the very bottom of society; only secondarily is it justified by the increased

The Sieve of Education.

YOUNG EGYPT

knowledge which it gives to the individuals of the masses. But, if this system of sieves is to be of any use, it must be devised with relation to the needs of the country; if those needs are peculiar, as in Egypt, a servile copy of foreign institutions is likely to be worse than useless. One of the first needs of the British Occupation in Egypt was education, for the sake of education, in order to provide assistance for the task of government, in the form of the necessary staff for various Government offices and technical posts; such education had necessarily to be on Western lines. But this having been done, the educational machinery was in existence, the people were demanding the privilege of profiting by it, and the increasing wealth of the fellaheen led to the creation of a class of youths who were sufficiently educated to be discontented with country life, and insufficiently educated to see that nothing but the country life they despised was worth the proverbial tinker's curse; the glamour of official employment obsessed them, and those who could not obtain it were soured, regarding their failure not as evidence of incapacity for such work, but as a betrayal. Therefore, Lord Cromer wrote: "The process of manufacturing demagogues has, in fact, not only already begun, but may be said to be well advanced. . . The ignorance of the masses should be tempered *pari passu* with the intellectual advance of those who are destined to be their leaders." This development of the lower grades of education in the village schools has gone on steadily, and bids fair to increase until it becomes the most important phase of education in Egypt.

Demagogues.

The point at issue concerns the form which this elementary education should take. Incidentally it sifts out a child here and there to pass on to the higher schools and supply the ranks of officials, while incidentally it will raise the general level of education amongst the fellaheen; but it seems that its fundamental object should be to sift the fellaheen themselves, by a course

Book-learning.

of training which, beyond the Three R's, should be rather one in Nature-study, and, above all, in the training of the faculties to observation and deduction. It is this side of the fellah head which is atrophied under conventional Western education. Some of the examples which could be quoted are almost incredible; the equivalents of university graduates in agriculture, themselves the sons of farmers, up for their final examination, and unable to state the two colours of the inch-wide flower of cotton; students of biology, authoritative on the life history of a toad, but who had never noticed a tadpole; these are not isolated or rare cases. Teaching which inevitably, under the examination system, puts a premium on skilful acquisition of book-knowledge but closes the eyes and ears, is of no use for sifting the fellaheen. The result is merely a useful routine clerk, who might equally well have "belonged to other nations."

The fault is not in the system, which works well enough in the West, nor in the teachers, who do their best to discourage mere cramming, but in the Egyptian, and in the useless aspirations it leads him to hold. Therefore the form of the sifting machinery must be altered, and at least the lower grades of the system changed. A special difficulty with which the educationists in Egypt have to deal, which helps to make things more difficult, is the mental collapse of the individual in adolescence; the brilliantly clever small boy, who would make his mark in any school, keen and observant—the type of boy who brings a pickle-bottle full of crawly things to the master, with questions,—is almost certain to fall back into the ruck a few years later. Here again it is not easy to state how much of this relapse might be avoided if the boy were living his normal life in the country, instead of dissipating in the city, but it is quite certain that any steps which might help to lessen this mental arrest would be of great value. Whether it is possible remains to be seen, but it is worth trying for.

Adolescence.

Granted that such a modified system of primary education could be provided for the mass of the fellaheen as would give them more intimate understanding of their own skilled labour, and so make that labour in its turn more skilled than before, thus augmenting the agricultural prosperity of Egypt, we need to know of what material this mass consists, and whether the sifting process which such education effects would find any superior individuals. If such superior individuals can be found, by methods and under circumstances which will keep them on the land and maintain their interest in the land, the race is started on the road to improvement. Such mental superiors must, on the average, profit at the expense of their inferior neighbours and so constitute a constantly increasing percentage of the population in successive generations. The danger of such sifting lies in disregarding the physical qualities, together with the staying-power, which have made the fellah the type of the agricultural workman, in which case the superiority would merely create a class which exploited its less able fellows.

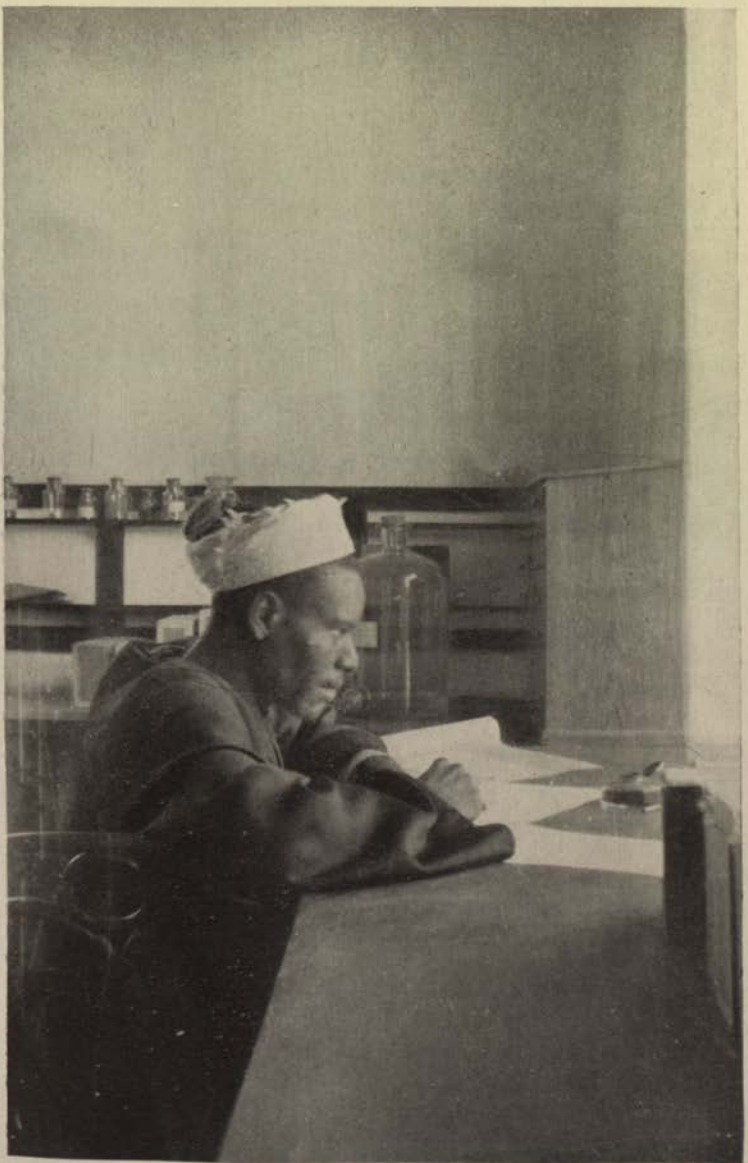
Unequal Egyptians.

The catch-phrase, " all men are equal," applies no more to the Egyptian fellaheen than to any other race. There are ample differences between individual fellaheen for the sifting process to take hold of. Within the ordinary scope of agricultural pursuits it is possible to select Egyptians who differ enormously from one another, and of whom certain individuals would pass muster as being exceptionally able in any agricultural country. The author's attention was drawn forcibly to this by his own experience in training native labourers to act in place of college-educated scientific assistants, whether Egyptian or European. The process began with the driver of a stone-cart in the Cairo quarries, almost the lowest class of labour in Egypt, who applied for a post as a gardener. This man had some Sudanese blood in him, but was practically an Egyptian, and, in the intervals of attending to the

An Able Egyptian.

cultivation of a small experimental garden, proceeded on his own initiative to teach himself to read and write not only Arabic but English also. Thus equipped he was commissioned to keep simple routine records of the state of experimental cotton plants, such as their height week by week, and the number of flowers open daily. These were at first effected as an assistant, and ultimately were left almost entirely to him, with only such checks as were necessary, leaving the author free for more skilled observation. Training in the use of a chemical balance and other laboratory appliances followed, and ultimately, with an extension of the scope of the work in hand, he became headman of a gang of young men, picked for their general intelligence from the numerous applicants and from the labourers on the experimental station. Within a year and a half this gang of plant observers numbered seven men, all as accurate observers as one could desire, and keen on the work; which was not only physically less laborious than they could otherwise have expected, but also gave them a novel distinction from their brothers. All except one could be trusted to count, weigh, or enter up the longest series of routine determinations—always provided that the expected result was not known to them, in which case the desire to please might overcome dispassionate judgment—and they possessed an enormous advantage over the veneered class in that they easily worked the full hours of the ordinary labourer with less exhaustion, and at any time would take up the hoe and do earthwork without feeling hurt at the order! Apart from the interest of devising suitable methods for them to use, it was extraordinarily interesting to watch the development of personality; one man turned out to be heavy-handed with a chemical balance but made up for it by being the first, after the headman, to detect an abnormal plant or an injurious insect in the experimental fields; another became remarkably deft with his fingers, but unreliable in his entries of observations, and an additional check had always

Fellah Scientists.



THE HEADMAN

to be applied to his results. At the end of the eighteen months' assistance which these eight men gave the author, at the cost of a single college-trained assistant, there could no longer be any doubt that there is clever adult material amongst the fellaheen. It has to be looked for, and carefully picked, as these men were, and it has to be weeded over carefully at intervals during subsequent training. When employed as in this case, its success is very largely dependent upon the honesty and ability of the headman, but that is incidental. The fact remains that the headman—who was undoubtedly exceptional—retained his lead over his subordinates, and out of the fifty men or so who were studied for the purpose of employment, one was a worthy second-in-command, and capable of very much further development within this purely agricultural sphere of work.

This particular episode has been described at some length because of its bearing on the educational question. Ordinary fellaheen have been employed for many purposes and by an indefinite number of masters, but in this case their employment was almost novel, in that it was directed primarily to an object which could only be attained by the exercise of those two capabilities in which the fellah is most notoriously defective, namely, Observation and Accuracy. These two, moreover, constitute the greatest defects of those Egyptians who have passed through the ordinary scholastic curriculum, so that prejudice and inaccuracy have even been accounted as racial characteristics. Without attempting to labour the matter further, it seems quite clear that there is ample material in the fellaheen from which a selective system of elementary education could gather individuals who would advance the general level of the race. Equally is it clear that mere education without a selective aim can achieve but little, and runs the risk of "manufacturing demagogues."

Unexpected Abilities.

The greater half of the educational problem in Egypt is the education of women, and similar considerations apply here

also, though possibly to a less extent proportionately, since the education of the Fellaha reacts directly on the circumstances under which the children are brought up. The present rate of infantile mortality alone is sufficient evidence of the ignorance of the mothers, and, although the unheard-of innovation effected by the Khedive Ismail in founding girls' schools has spread rapidly throughout the country, yet only a small proportion of the total female population has been reached by them. The daily routine of work such as is being done by Lady Cromer's Dispensaries in particular, reveals an incredible amount of ignorance and superstition, which is not confined to the poorest classes of women; the children are foul in the eyes, and are allowed to munch such indigestible dainties as beans and bread as soon as they have teeth with which to bite, while the mother protests to the lady doctor that nothing but milk has ever passed the child's lips, though its little hand may actually be holding a hunch of raw potato. Even though the mothers bring their children to the dispensary of their own free will, much of the medicine given them to take away is sold outside the dispensary door, and never reaches its proper destination. In some ways this education of the fellaha is likely to be less difficult than that of her sisters higher in the social scale, owing to the greater seclusion of the latter. The women of the labouring class are only perfunctorily veiled, by means of a corner of the head-shawl held in the teeth when meeting a white man, and they have a greater community of interest (and of labour) in the facts of everyday life than their betters. Any improvement of the fellah may therefore react more directly on his women-kind than in the case of the wealthier classes.

Feminine Education.

The future prospects of the fellaheen are thus by no means dismal. The analysis of their possibilities may be considered unduly optimistic, but it is advisable to bear in mind the descriptions of their wretchedness given by travellers so recently as a century ago. There has been a very definite

improvement in their condition already, even allowing for the insular outlook of some of the Early Victorian writers. With the further agricultural development of Egypt a further improvement will be inevitable, which might be assisted by suitable education applied as a selective agent. The essential thing is to keep the fellah on the land, where he has real advantages over other races of men, both in temperament and knowledge, and in physique.

Improved Status.

The relation between this outlook and the catch-phrase, "Egypt *for* the Egyptians," must not pass without mention, if only to avoid any ambiguity of meaning. The phrase was the pet one of the Nationalist Party, which did its best to ruin Egypt through a variety of motives; some of which were sincere, while others were merely the outcome of vigorous wire-pulling. There is no guarantee that Nationalists will not spring up again, but it is to be hoped that by the time this resurrection takes place they will have studied the history of their country. Even supposing the people at large to have advanced sufficiently for self-government, which cannot happen within a century, they would still be at the mercy of foreign powers. The new status of Egypt as a separate nation under the protection of Great Britain, is probably the best possible. It leaves her free to work out her own salvation as the premier agricultural country of the world, with assistance in doing so, and with protection against interference. With scarcely an exception, the British intentions in Egypt have been excellent; they have indeed been so good that they have paved the way to a great deal of unnecessary trouble. Most of the side-issues and international complications have been whittled away until, with the declaration of the Protectorate, the Anglo-Egyptians and Egyptians are free to start work in earnest. The period of reconstruction is over, and that of development can begin.

"Nationalists."

Whatever particular form that development may take, it

will clearly be quite different from anything in Egypt's past history. A mere exploitation of the masses for the benefit of the government had formerly been the highest aim of any of Egypt's many rulers, home-born or foreign, until the British Occupation. Although the initial aim of the Occupation was to teach the Egyptians to govern themselves, time has shown that ideal to have been too lofty to be achieved for many generations to come, and when it has been reached by way of breeding a race of Egyptians who are capable of learning how to govern themselves—a very different thing—the world will have become too small for such a tiny country to stand in it without assistance.

A Tiny Country.

CHAPTER IX

THE FOREIGNER

Three Aspects—

" The epitaph drear: ' A fool lies here who tried to hustle the East.' "—*The Naulakha.*

" To seek another's profit,
And work another's gain."
—*The White Man's Burden.*

" Yes, we shall be perfectly pleased with our work,
And that is the perfectest Hell of it."
—*The Old Men.*

ALTHOUGH the fellaheen are the most typical class in Egypt and, in one sense, the most important, they by no means constitute the whole population. The census of 1907 showed that 41 per cent. of the entire male population were engaged in farming, more than half of these being owners of land. The remainder are town-dwellers, or are engaged in trade or professions in the villages, and it is amongst these that most of the foreigners are to be found.

Census Figures.

Out of a total population for all Egypt of 11,250,000 in 1907, Cairo and Alexandria made up almost 1,000,000 inhabitants between them, while there were over forty towns whose population exceeded 10,000 apiece. The increase in population has been enormous, entirely obviating the necessity of introducing Chinese coolies, once contemplated; where there were 11,287,000 inhabitants in 1907, there had been 9,622,000 in 1897, and only 6,516,000 in 1880.

Turkish Subjects.

The foreign colony, or rather colonies, form but a small proportion of this total. It is noteworthy that the population of the large towns, into which the foreign immigrants chiefly come, has increased less in proportion than that of the rest of Egypt. The total number of foreign inhabitants was 113,000 in 1897,

and still constitutes about 1 per cent. of the population of the country. This does not however include the very considerable number of non-Egyptians who were Turkish subjects, such as the Syrians and Armenians and the Turks themselves. The Syrian has become more important in Egypt of late years, for he was scarcely mentioned by writers of a century ago; since then, aided by some French education, and speaking a form of Arabic which is not very different from Egyptian Arabic, he has become a useful junior official while the Egyptians were waking up. The Armenians are few in number but of considerable influence, and in Nubar Pasha they provided Egypt with one of the ablest administrators she has had; at the same time it is depressing to deal with the average Armenian; his polished deference and gentlemanly bearing show too clearly the mark of generations under Turkish oppression, when servility was the only road to partial safety. The Turk, or Turco-Egyptian, provides a useful stiffening, for, whatever may be the faults of the Turk as a ruler on his own account, he provides an excellent second-in-command, and some of the ablest "Egyptians" are of Turkish descent; more often than not there is no definite distinction between the two, intermarriage having blended the races together so that, although the pedigree on the male side is purely Turkish, it may be anything in its other half. These and many other Ottoman subjects not born in Egypt, who made up some 40,000 head in 1897, are supplemented by the Bedouin.

The Bedouin of late years have begun to settle down in the Nile Valley, where they hold their heads perhaps rather high, and a man who can assert himself to be a "son of the Arabs" will speak pityingly of the fellaheen. Sometimes the boast is justified, and sometimes it is not. The tourist who knows the pestilent fellows by whom the Pyramids were made a place of torment, will probably deny their claims, but as a class the Arabs have a stiffer upper lip, a quicker temper, and a keener intellect, than the Egyptians in general. There are about

Arabs.

A BEDOUIN SETTLEMENT

500,000 of these semi-sedentary Bedouin in the country, cultivating land themselves, and herding animals on land hired for the purpose; their flocks of goats, for example, are very useful in cleaning the last green twigs off a cotton-field before the sticks are pulled up. The wandering population of Bedouin who are still nomads within Egyptian territory is estimated at something less than 100,000, with the whole of the deserts, Eastern, Libyan, and Sinaitic, at their disposal; they comprise a number of distinct tribes.

The 1897 census of 9,622,000 thus whittles down to about 9,000,000 Egyptians proper, Turkish subjects born in Egypt, and Europeans, the latter numbering 113,000.

"Levantines." These are classified according to the national Consuls with whom they are registered, and many of them are actually Orientals under the protection of a foreign power, such as the Algerians of France. They further comprise a large number of "Levantines," who have registered with any Consul to whose protection they may have had a claim at some remove. The term Levantine is rather indefinite, and, in its lower stages, often opprobrious; it graduates from Europeans resident in the Levant, through their children, to mixed marriages between Europeans, and onwards to blendings of Occident and Orient. At the latter stage the term Levantine becomes one of reproach, and not always unjustly. Even earlier stages sometimes leave a marked impression on the characteristics of the individual, owing to prolonged association with Orientals; the fact was noticed by the historians of the Crusades. The process of evolution into a Levantine seems to be easiest for the Greek, then for the Italian, and hardest for the English and Germans. The French with their characteristic versatility exhibit every stage of adaptation and resistance, from ultra-Gallicism to the reverse.

Including both Levantines and nationals in the strict sense, the Greeks constitute still the principal foreigners from Europe in Egypt, numbering about one-third of the total.

Next to them come the Italians, then English, French, and Austrians. The English foreigners are not however so numerous as they might appear to be, since their numbers included the British Army of Occupation, Maltese, Indian, and other British subjects. The British residents proper in Egypt, of all social grades whatever, are but a small community.

Europeans.

The Greeks permeate the whole of Egypt, from the merchant princes down to the very dregs; they range from the most patriotic gentlemen in the world, both to their own country and their adopted one, right through to the "black Greek" who is frequently an unmentionable scoundrel. There is no question as to the ability of the Greek, but only as to the form which that ability takes; there have been Greek millionaires who began life with a pack-animal and a soda-water machine, and went behind the army into the heart of the Sudan as camp-followers, liable to be cut up at any moment by raiding Dervishes, and quenching some part of the "Sudan thirst" to the advantage of all concerned. A Greek boy will obtain permission to squat with a tray of edibles of sorts in the shade of a building near a new tramway-line, and the establishment can be seen to grow daily, until within five years a prosperous café with marble-topped tables, palms in tubs, and waiters in dress-suits may fill the vacant space, having passed through the intermediate stages of packing-cases, sacking, kerosene-tins, paint, second-hand chairs, and so forth, in a series of imperceptible gradations.

The Italians from Northern Italy largely monopolise the higher levels of skilled handicraft, especially in masonry work, and are a useful asset to the country, the native craftsman by himself being rarely reliable over accurate work which has to be carried out according to a specified design. The French have left a permanent stamp on the country, which owes much to them, and might well have owed even more; the days when they pursued a policy of obstruction are now long past, and their relation with the English is that of colleagues; it is to

be hoped that French influence will persist in Egypt, if only to stimulate the less enthusiastic and imaginative Islanders to those anticipatory flights which the monotony of the day's work does not encourage.

Amongst this welter of nationalities and interests, the Scotch, Irish, Welsh, and English go their way, the last with their habit of looking "through" persons who do not interest them, and of waiting for friendship rather than going to seek it. So far they have been justified by their works, which have been extraordinary; whether the task of development will be effected as skilfully as was that of reconstruction, the future must decide.

British.

Meanwhile the favourite gibe of the Egyptian Nationalist agitators, who depicted the English officials as battening on the fat of the Egyptian land, has lost what point it ever had. There is not much battening about it. The English official who has not a private income is usually the proud possessor of an over-draft, together with the prospect of possibly living long enough to retire on a pension which will command the use of a carefully selected country cottage. The cost of living in Cairo, where no flat can be obtained under £100 a year, with the practical necessity of keeping up a separate home in England for the children, has taken most of the gilt off the Egyptian service in the last decade or so, and may react on the quality of the service. The fellah flourishes much more luxuriantly on a shilling a day than the Englishman does on a pound. This is merely one of the contrasts of Egypt. Meanwhile the British are the most foreign of all the foreigners in Egypt, prevented by their status as well as by their temperament from assimilating themselves to the life of the country, and in compensation they see most of the game as active lookers-on.

Egypt is an irritating and demoralising country for a white race. The most hustling member of the most hustling nation finds Egypt hard to move, and, when she does move, the motion

is very often in a contrary direction. It would hardly have been expected that the effect of removing the octroi taxes formerly imposed on food-stuffs entering Cairo would have been to raise the price of food in Cairo; yet such was the case, and quite reasonably so, when all the circumstances are duly considered. The moral of which is that circumstances should be studied exhaustively before action is taken, and studied in relation to the peculiar circumstances of Egypt, where the Englishman wears a thick sun-helmet, and the fellah a skull-cap; where the oldest race in the world has forgotten its own civilisation, which has become a hobby of the new races. If these contradictions are left out of account, the best-laid schemes go wrong.

Worries.

By the time the foreigner in Egypt has mastered the outlines of Egypt's seeming paradoxes, he is usually losing some of his first energy. In spite of summer leave, and good intentions, the country begins to wear him down, and things have to take care of themselves more than at first. Moreover, he has probably recognised that many things which seemed wrong or useless are really right or useful, and do not need reform after all. But there are certain features of life in Egypt which never fail to irritate an Englishman, or, if they fail to do so, it is time for him to leave Egypt. These features are embodied in the three words, *baksheesh*, *malea'ash*, and *na'am*, and the worst of these is *na'am*.

Baksheesh is the bribe, tip, or commission, reverenced in the East from time immemorial. *Malea'ash* is indefinable, akin to the Russian *nitchevo*, or the South African's *ikorna*, but possessing as many shades of meaning as there are shades of vocal inflection; the chauffeur crawls out beneath the car he has wrecked and greets his battered employer with *malea'ash, ya Bey;* the small boy caught stealing oranges yells *malea'ash* between the blows of the watchman's heavy staff; you miss a train through the cab breaking down, the cab-driver has apologised

Words of Woe.

for his vehicle with *malea'ash*, and you, after the primary Anglo-Saxon expletive, say *malea'ash* yourself; the thing was predestined, it does not matter, don't worry, it might have been worse, what a pity, who cares, never mind, and a dozen other translations fail to exhaust the meanings of this blessed word, which sticks in the head for life. The exclamation of surprise, *ya salaam*, an adjuration to peace, is also enduring, but it is commonplace. But no such virtue of many-sidedness attaches to *na'am;* this is a word which raises the ire of an Englishman by its sound alone, independently of its meaning—or lack of meaning, for its significance is entirely negative and non-committal—and the first thing which a native servant has to learn is to avoid using this infernal sound.

City and Country.

There is " a great gulf fixed " between the Englishman and the native of Egypt in the cities, but it is significant that life in the country tends to close the gulf. To the Englishman in an office the ways of his Egyptian assistants are merely an imitation, usually none too good, of the ways of their fellows in Europe, and he sighs for a really efficient stenographer, envying Western business men. In the country a common interest in the growing crop provides a common thinking-ground, and, in spite of the differences of language, religion, and social status, an interchange of ideas between the native and the foreigner is far more frequent than in the towns, where the interests of life are more superficial. The foreigners who work in the country districts, irrigating, financing, and advising the fellaheen, grow insensibly into the habit of regarding even their follies and absurdities with a far more tolerant eye than do the bureaucrats. Beyond a certain point this runs the risk of degenerating into Levantinisation, but otherwise it works out to a very satisfactory arrangement, in which each party goes his own way; with mutual respect, amazement, and indignation nicely blended, and a real appreciation of one another's utility in the scheme of things as they are; besides leading the

fatalist member occasionally to reflect upon things as they ought to be.

The Reconstruction of Egypt.

The work of Reconstruction effected by the British in Egypt was begun, in co-operation with the French, before the British Occupation in 1882. It was primarily a financial problem, the debt of the country having been raised from ten to more than ninety millions by the Khedive Ismail. At the same time, though much money had been wasted through mismanagement, financial errors, and too much haste, yet an appreciable part of the debt was incurred on productive expenditure, such as the completion of the Suez Canal (the heavy cost of which to Egypt was due partly to Ismail's repudiation of Said Pasha's concessions), the construction of railways, of harbour works at Suez and Alexandria, of irrigation canals, roads, lighthouses, and urban improvements and embellishments. The programme of retrenchment and economy, concurrently with the task of putting the perennial irrigation system into efficient working order, had been begun under international control and the Khedive Tewfik, when the Egyptian Army mutinied, following the puppet-leadership of Arabi Pasha, who was pulled by strings of which some at least were in the hands of the Porte. Serious rioting against the Europeans broke out in Alexandria, and many were massacred; a month afterwards, on 11th July, 1882, Alexandria was bombarded by the British fleet, the French fleet having been recalled. Sir Garnet Wolseley's army turned Arabi's flank by landing at Ismailia in the Suez Canal, to the intense annoyance of De Lesseps, and defeated Arabi in half-an-hour at Tel-el-Kebir. The action of the French Government had left England to pull the chestnuts out of the fire, and, the act once accomplished, the error was realised; the friendly co-operation of previous years with no more than its reasonable allowance of national jealousy, was thus changed to a feeling of bitterness which lasted until the Anglo-French

agreement of 1904, and was, until then, the dominating factor of Anglo-Egyptian politics. Thus, just as if the natural difficulties in the way of reconstructing a bankrupt country, wherein our presence was regarded by the English Government as an unpleasant accident, were not sufficient, there were endless powerful international jealousies to face, with international control of some institutions, and Turkey at the back of everything as the Suzerain lord of this much be-foreignered land.

Over and above the problem of Egypt proper there was the problem of the Sudan, which is the same thing on a larger scale. Mr. Gladstone could not, however, acknowledge that this was the case, and being in Egypt by sheer necessity was unwilling to finish the task. The new prophet, the Mahdi, was gathering a following there, and the two expeditions of Egyptian troops sent to deal with him were wiped out, first under Hicks Pasha near El Obeid in November, 1883, and then under Valentine Baker Pasha near Tokar three months later. So the Sudan had to be evacuated, with a great accession of influence to the Mahdi in his Holy War.

The Reconstruction of the Sudan.

The evacuation of the Sudan had been entrusted to General Gordon, whose tragic end was due partly to his own initiative in holding on to Khartoum, and partly to the vacillation and delay of the English Government, which led to the grimmest joke Fate ever perpetrated, the relief expedition sighting Khartoum only two mornings after it had been sacked by the Dervishes on 26th January, 1885. *Punch's* cartoon, "Too Late," should hang in every Government office as a reminder.

The Sudan remained a source of danger and expense to Egypt and England for years, until it was reconquered by the Anglo-Egyptian and Sudanese troops under Sir Herbert Kitchener in 1898. This position necessitated the development of an Egyptian army, and it was done by a handful of British officers and non-commissioned officers; the despised

fellah who had become the laughing-stock of armies was steadily combed out, tested little by little with a stiffening of British troops, until he finally took his fair share of the work in 1896–1898. As a joyous fighting-man he does not compare with the cheerful, spindle-shanked, overgrown, black-faced children who constitute the newer Sudanese battalions of the Egyptian army, but the racial capacity for endurance stands the fellah in good stead equally with a rifle as with a hoe.

Reconstruction of Finances.

The financial arrangements made by the Powers in 1885 gave Egypt three years' relief from certain financial obligations, during which time Egypt was to have her last chance. Lord Cromer pulled the finances through, and saved the situation. Since 1888 her progress has been steady, though not altogether uninterrupted. Taxation was reformed, and the *corvée* of forced labour was abolished. For certain purposes, such as protection of the Nile banks during flood, the *corvée* can still be enforced, but it is a paid *corvée* of compulsory service only. The use of the rhinoceros-hide whip, or *koorbash*, was also forbidden, possibly prematurely, since it left the English official without any form of suasion, other than moral, which is not always convenient; a few strokes of a whip, temperately employed, would often be preferable to the tedious process of "cutting" a subordinate's pay; still, it was the only possible course.

The Delta barrage was repaired, simplifying the irrigation of the Delta, and in 1902 the original Assuan Dam was opened. Concurrently came the enormous development of the cotton trade of the world, with demand exceeding supply for year after year, and the price of Egyptian cotton rose from 8 dollars a kantar in 1898 to prices nearer 20 dollars. The pace of cotton-production was forced, and it was found that the irrigation system had certain deficiencies, which obtained a dramatic demonstration in the bad crop of 1909. This event, following a financial crisis in 1907, due partly to world-wide causes, and

partly to local speculation in land, practically marks the end of the period of reconstruction.

Period of Consolidation.

Since then Egyptian administration has been rather at a standstill, in the sense that there has been no very definite objective for which to work. Progress in general, and refinements in detail, making for a more efficient Egypt, have been the order of the day. The administration was so anomalous that there was no lack of problems to deal with, and the work seemed to be still definite, but it pursued rather a number of detailed ends than one definite purpose. Now that the establishment of the Protectorate has removed international complications and Turkish suzerainty, while the primary interest of the new Sultan is the welfare of the agricultural masses, it seems reasonable to anticipate that the new period of real development has commenced, working towards the conversion of Egypt into the premier agricultural country of the world.

Much of the work of the present century has tended in the same direction, though perhaps sub-consciously. The deterioration in the yield of cotton was not without beneficial results, since it was clearly bad business to go to the trouble of putting some 350,000 acres more under cotton without obtaining any larger crop than 1,400,000 acres would have given at the old rate of yield. Similarly, the futile and premature attempt of home politicians to hasten the maturity of democratic institutions was valuable, in that it gave an object-lesson to all concerned, in an exceedingly short space of time. The financial crisis showed that the speculator was not to be encouraged, and it also demonstrated the essential solidity of Egypt's agricultural condition. Subsequent reforms put in hand were also feeling their way towards a definite policy; the law limiting the liability of the fellah's land to seizure was a sweeping measure for the purpose of attaining an end which can scarcely be reached except through

slow education and evolution; the establishment of cotton markets with a price-board and guaranteed weighing machines was a direct attempt to give the fellah the full benefit of his labour on the crop, but the ultimate importance of the existence of such markets will lie in the co-ordination of demand and supply; the great projects for draining the Barari lands in the Northern Delta were partly palliative measures for injury already done to the country by defective methods, and in part were a natural extension of the reconstructive work of previous years in a direction where such work had previously been inhibited for lack of money. Taking all things into consideration, it seems fair to describe the work of the foreigners in Egypt during the last decade as being directed to Consolidation of the position gained during the first two decades of reconstruction.

The outbreak of the European War in 1914 not only tested the solidity of the construction achieved, but also put a term to the work of consolidation. With the much-desired but somewhat unexpected termination of the Turkish suzerainty and international control, many difficulties have vanished; there seems now to be a fair prospect of definite and unfettered work, both for foreigners and Egyptians, on the development of the country, with a definite and highly remote objective for which to labour. The objective indicated in this and the preceding chapter seems the most likely one, as the natural resultant of the external and internal forces which act upon the Nile Valley.

The Objective.

It may not be altogether prejudice on the author's part which leads him to think that this development of Egypt into a highly specialised agricultural laboratory will be dependent on the use made of scientific investigators, and upon their calibre. To take only an obvious case; it is impossible to provide effective education on the lines of nature-study for the fellaheen children, unless the teachers appreciate those

reasons which underlie the established customs of the fellah in cultivating his land; to teach in the primary school that father's methods were wrong would be disastrous, when father could—as the last resort of argument—point to a hole in the floor containing gold which showed them to be right. Yet many of these customs of the cultivator are still not understood, and their elucidation will take no small amount of serious study, without reckoning the further development of existing methods.

There seems to be a reasonable possibility that the next century of the world's history will be the farmer's epoch, just as the past century has been that of the engineer and the inventor of machines. Our knowledge of the life of plants is advancing with astonishing rapidity, and the economic application of this knowledge will sooner or later begin to appear. The world at large is likely to display a bias towards this form of applied science, if only as a reaction against the domination of engineering in the European War. This is merely speculation, but so far as Egypt is concerned it carries the corollary that nothing but the best scientific work will be of any use to her if she is to achieve agricultural distinction. Mere "dollar-hunting" for the immediate solution of obvious difficulties will not in itself meet her needs; such methods may suffice for countries where good land is now worth less than £200 an acre.

Finis.

The old desire of the British in Egypt, to "teach the Egyptians to govern themselves," is by no means extinct, nor—within limits—is it altogether impracticable, provided we recognise that the attainment of the ideal can only be reached by a long process of selection, and not by the quick-acting panacea of education; provided also that we recognise the necessity for external protection by some nation or other, which shall leave the Egyptians and their foreign assistants free to develop the country along peaceful paths, into an elaborate agricultural organisation. The two essentials to that

development are; ——first, complete control of the Nile in its course and throughout its course; second, retention of the physique and industry of the fellah class. No man will work without some spur to drive him; formerly the fellah has worked through sheer necessity; some other and gentler spur of self-interest must be devised to replace this, which foreigners, by their own efforts, have blunted.

A MOTHER IN EGYPT

SUMMARY OF EGYPTIAN HISTORY

Periods & Dynasties.	*Rulers.*	*Notes.*
CHAP. I—		
Pre-Dynastic.		Calendar initiated in 4241 B.C. Two separate kingdoms.
Early Dynasties. I, II. 3400–4100 B.C.	Menes 3400 B.C.	Abydos and Memphis capitals of United Egypt.
The Old Kingdom III–X. 4100–2475 B.C.	Zoser.	Step pyramid of Sakkara.
	Khufu (Cheops)	Great Pyramid of Giza.
	Khafra.	Second do.
	Men-kau-ra.	Third do.
	Pepi II.	Ninety-year reign, followed by confusion, and rise of Theban princes.
The Feudal Kingdom. XI–XVII. 2160–1788 B.C.	Sesostris III.	First personal invasion of Syria
	Anemenhet III.	Regulated the Nile
The Hyksos Invaders. XIII–XVII. 1788–1587 B.C		Hyksos and native kings. Former ruling from Avaris in the Delta.
The Early Empire. XVIII. 1587–1328 B.C.	Ahmose I.	Fire-control and chariots. Rise of priest-craft. Thebes increased.
	Hatshepsut.	
	Thutmose III.	
	Thutmose IV.	Hittite power threatening.
	Amenhotep IV or "Ikhnaton."	Revolution.
CHAP. II.		
The Middle Empire. XIX–XX. 1328–1150 B.C.	Harmhab.	Thebes restored as capital.
	Seti.	
1328–1150 B.C.	Rameses.	Loss of Asiatic Empire, 1150–1102 B.C., under the priests.
The Decadence. XXI–XXVI. 1102–664 B.C.	Sheshonk.	Tanite Dynasty XXI. Libyan mercenaries. Bubastites.
	Piankhi.	Nubian invaders
	Ashurbanipal.	Assyrian conquest.

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CHAP. II—(*continued*).

Periods & Dynasties.	*Rulers.*	*Notes.*
The Restoration. XXVI. 664–525 B.C.	Necho & Psamtik I.	Revolted against Assyria.
	Apries.	Greek mercenaries employed.
	Amasis.	Rise of Babylon. Africa circumnavigated.
The Persians. 525–405 B.C.	Cambyses, etc.	Brief restoration of XXVIII–XXX Dynasties.
The Ptolemies. 332–30 B.C.	Alexander.	Peaceful conquest. Alexandria founded.
	Ptolemy I.	Wide empire established. Successors left many temples.
	Cleopatra.	Julius Caesar in Egypt.

CHAP. III.

The Romans. 30 B.C.–A.D. 395.	Diocletian.	The granary of Rome. Religious disputes. Alexandria still the capital.
The Byzantine Empire. A.D. 395–640	Constantine. Theodosius.	Influence of the monks.
The Arab Conquest. A.D. 640–969	'Amr.	Fostat founded as capital. El Askar added under Abbassid Caliphs.
	Ibn Tulun.	El Katai added. Practical independence.
The Fatimid Caliphs. A.D. 969–1169	El Mo'izz. El Hakim.	El Kahira (Cairo) founded.
The Ayyubid Dynasty. A.D. 1169–1250	Saladin.	Citadel of Cairo built. Egypt the centre of Islam against the Crusaders.
	Saphadin. Shegur-ed-Durr.	
The First Memluks. A.D. 1260–1382	Beybars. Kalaun. Nasir.	
The Circassian Memluks. A.D. 1382–1517	Kait Bey. El Ghuri.	The prime of Saracenic art.
The Turkish Conquest. A.D. 1517–1806		Caliphate passes to Sultan of Turkey. Napoleon's invasion, 1798.

CHAP. III—(*continued*)

Periods & Dynasties.	*Rulers.*	*Notes.*
The Khedivial Dynasty. A.D. 1806–1914	Mohammed Ali.	Became Pasha A.D. 1806
	Abbas I.	1849.
	Said.	1854.
	Ismail.	1863. Made Khedive, 1866.
	Tewfik.	1879. British Occupation, 1882, Lord Cromer as Agent (Chaps. III & IX).
	Abbaś Hilmi.	1892. Sudan reconquered, 1898.
The British Protectorate. December, 1914–	Sultan Hussein.	Sir A. McMahon as first Resident.

NOTE.—The dates given before the Early Empire of Ancient Egypt follow Breasted's chronology. They are the latest dates possible, and many high authorities make the accession of Menes much earlier, at 4500 B.C.

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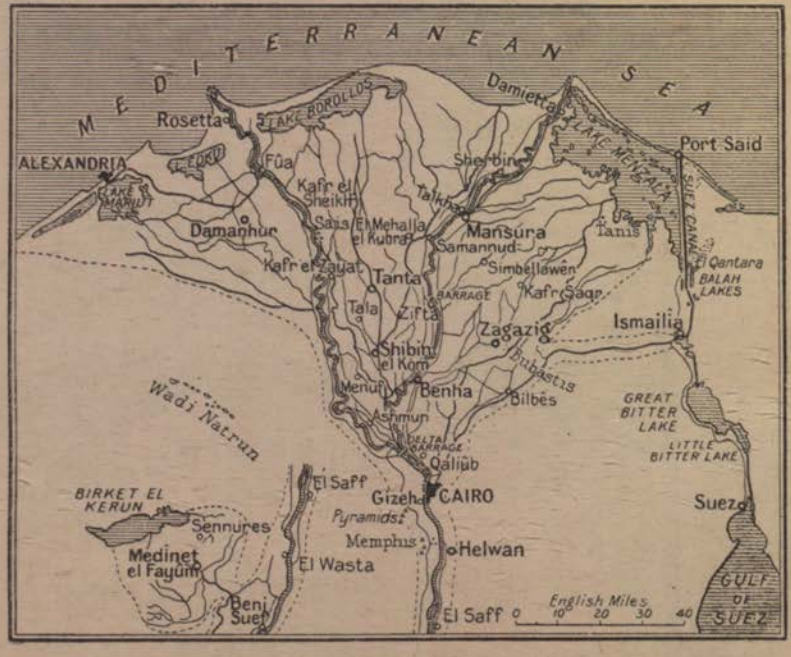

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THE END

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DAR-FUR
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ABYSSINIA
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